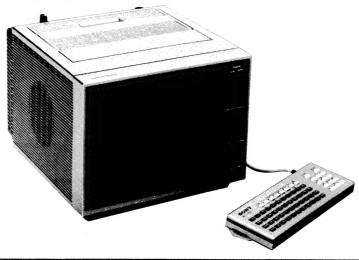
## KTX-90

**SERVICE MANUAL** 

Chassis No. SSC-458A-A



October, 1982

Also refer to Adjustment manual.

### **SPECIFICATIONS**

Picture tube

Trinitron "super fine pitch" color pic-

ture tube, about 23 cm (measured

diagonally)

Deflection 90°

Scanning

Without line skip

Application Videotex Modem

German Federal Postal Service D-

Inputs/Outputs

1200S Keyboard input: 6-pin DIN

KI-102 (delivery scope)

KI-103G (ordering)

Tape memory input/output: 7-pin DIN

Printer: Output: 8-pin DIN 180 V to 260 V AC, 50/60 Hz

Power supply

Power draw **Dimensions** 

Weight

Available accessories:

38 watts

Approx 261x236x326.5 mm (W/H/D)

Approx 7 kg (15 lb 7 oz)

Keyboard KI-103G

Video graphic printer UP-101UB

Connecting cable RK-133 (7-pin DIN on 5-pin and mini-plug

Connecting cable RK-137 (7-pin DIN

on 3 mini-plugs)

Video cable VK-100 (8-pin DIN on 7-

Serial graphic printer SMI-7020G

Keyboard extension cable RK-138

We reserve the right to make alterations for the sake of tecnnical progress.



TRINITRON® COLOUR VIEWDATA TERMINAL SONY



### SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY SHADING AND MARK ON THE SCHEMATIC DIAGRAMS ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THE SERVICE MANUAL.

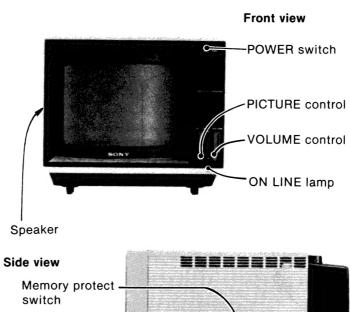
CIRCUIT ADJUSTMENTS THAT ARE CRITICAL TO SAFE OPERATION ARE IDENTIFIED IN THE SERVICE MANUAL PUBLISHED BY SONY. FOLLOW THESE PROCEDURES WHENEVER CRITICAL COMPONENTS ARE REPLACED OR IMPROPER OPERATION IS SUSPECTED.

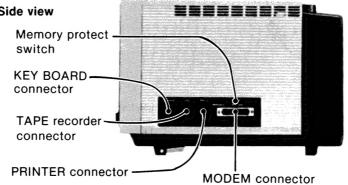
### SICHERHEITSHINWEIS FÜR KOMPONENTEN

IN DEN SCHALTBILDERN SCHRAFFIERT UND MIT DER A MARKE EINGEZEICHNETE KOMPONENTEIL SIND FÜR DIE BETRIEBSSICHERHEIT KRITISCH. DIESE KOMPONENTEN SIND DURCH SOLCHE SONT TEILE ZU ERSETZEN, DEREN TEILNUMMERN II DEM VON SONY HERAUSGEGEBENEN WARTUNGSHANDBUCH ANGEGEBEN SIND. AUF FÜR DIE BETRIEBSSICHERHEIT KRITISCHE SCHALTUNGSEINSTELLUNGEN WIRD IN DEM HAND-BUCH HINGEWIESEN. BEFOLGEN SIE DIESE ANWEISUNGEN STETS, WENI KRITISCHE KOMPONENTEN AUSGEWECHSELT WERDEN ODER VERDACHT AUF FUNKTIONS STÖRUNGEN BESTEHT.

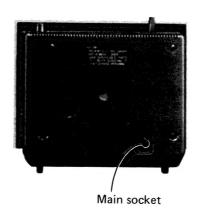
### SECTION 1 GENERAL

### 1-1. LOCATION AND FUNCTION OF PARTS AND CONTROLS





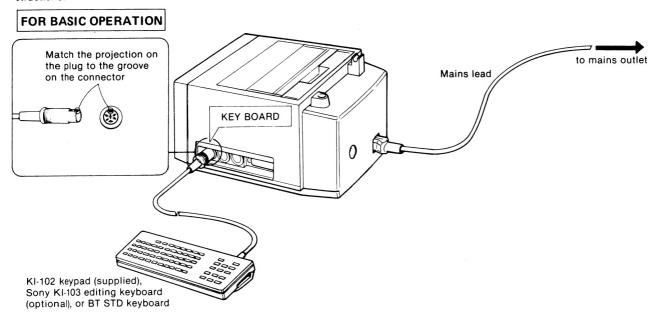




### 1-2. CONNECTIONS

These connections should be made with the POWER switch turned off.  $% \label{eq:connection}%$ 

For each type of connection, please read the corresponding instructions.

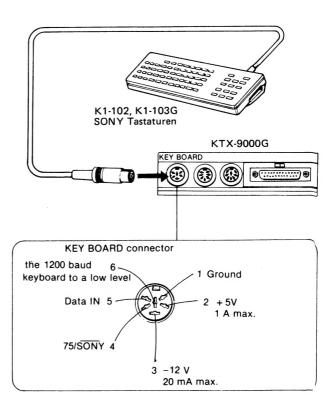


### Connecting the keypad or keyboard

Connect the supplied KI-102 keypad, the KI-103 keyboard or the BT STD keyboard as follows.

### Mains supply

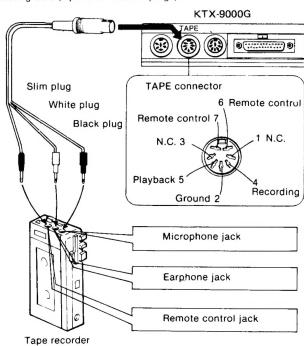
This terminal operates on 180–260 V ac. Connect the mains lead to suitable mains outlets.



# PRINTER TAPE MODEM via BT approved barrier device

### Connecting a tape recorder

A tape recorder will enable you to record pages of information from the database for viewing at your convenience in the off-line or the on-line mode. We recommend that you use a tape recorder equipped with a remote control special minijack, an earphone jack, and a microphone jack. For the connection, use the optional RK-137 connecting cord (7-pin DIN to 3 miniplugs).



For the connection of a tape recorder equipped with a remote control special minijack and a REC/PB connector, use the optional RK-133 connecting cord (7-pin DIN to special miniplug and 5-pin DIN).

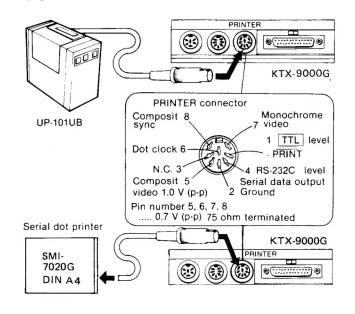
### Connecting the printer

UP-101UB

video graphic printer

This terminal allows connection of a Sony UP-101UB video graphic printer, a British Telecom Standard printer, or a Sony SMI-7020UB serial dot impact printer to print out a hard copy of the displayed page.

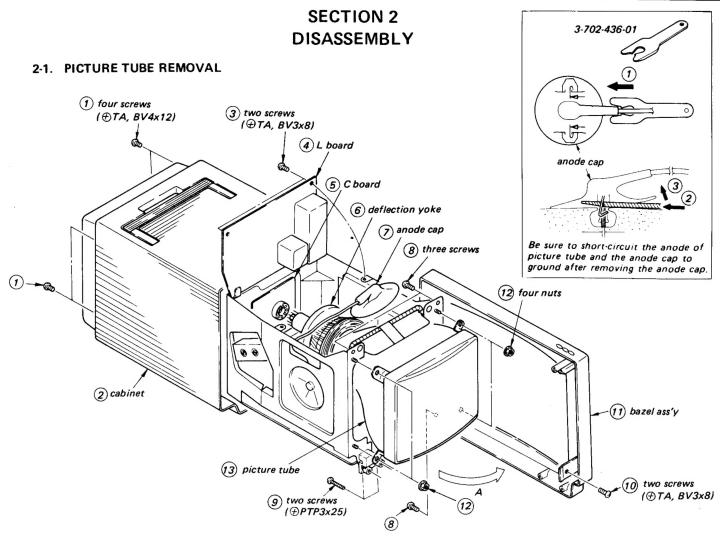
External MODEM

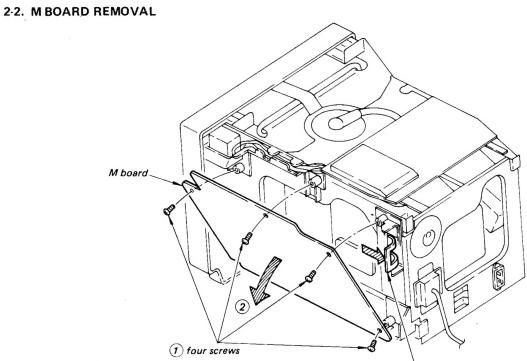


### Connecting the MODEM

When you connect the external MODEM via BT approved barrier device, use the connector to suit the following terminals.

Pin number na	ame	CCITT-equivalent
14(2)	Transmitted data	103
3	Received data	104
7	Signal ground common return	102
8	Received line signal detector	109
20	Data terminal ready	108
6	Date set ready	107

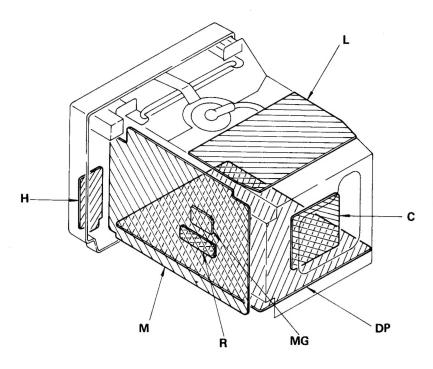




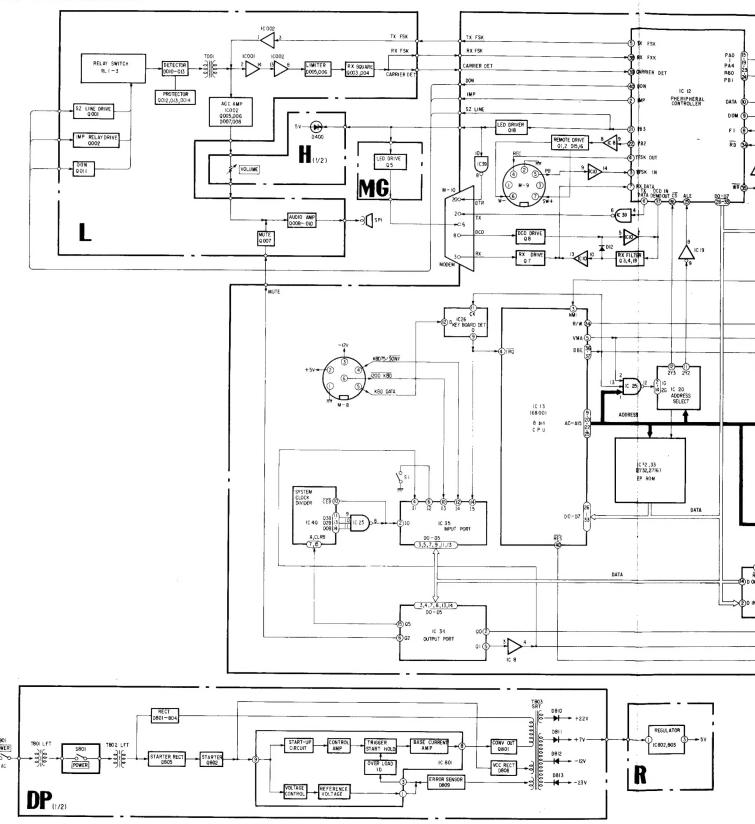
hook

### SECTION 3 DIAGRAMS

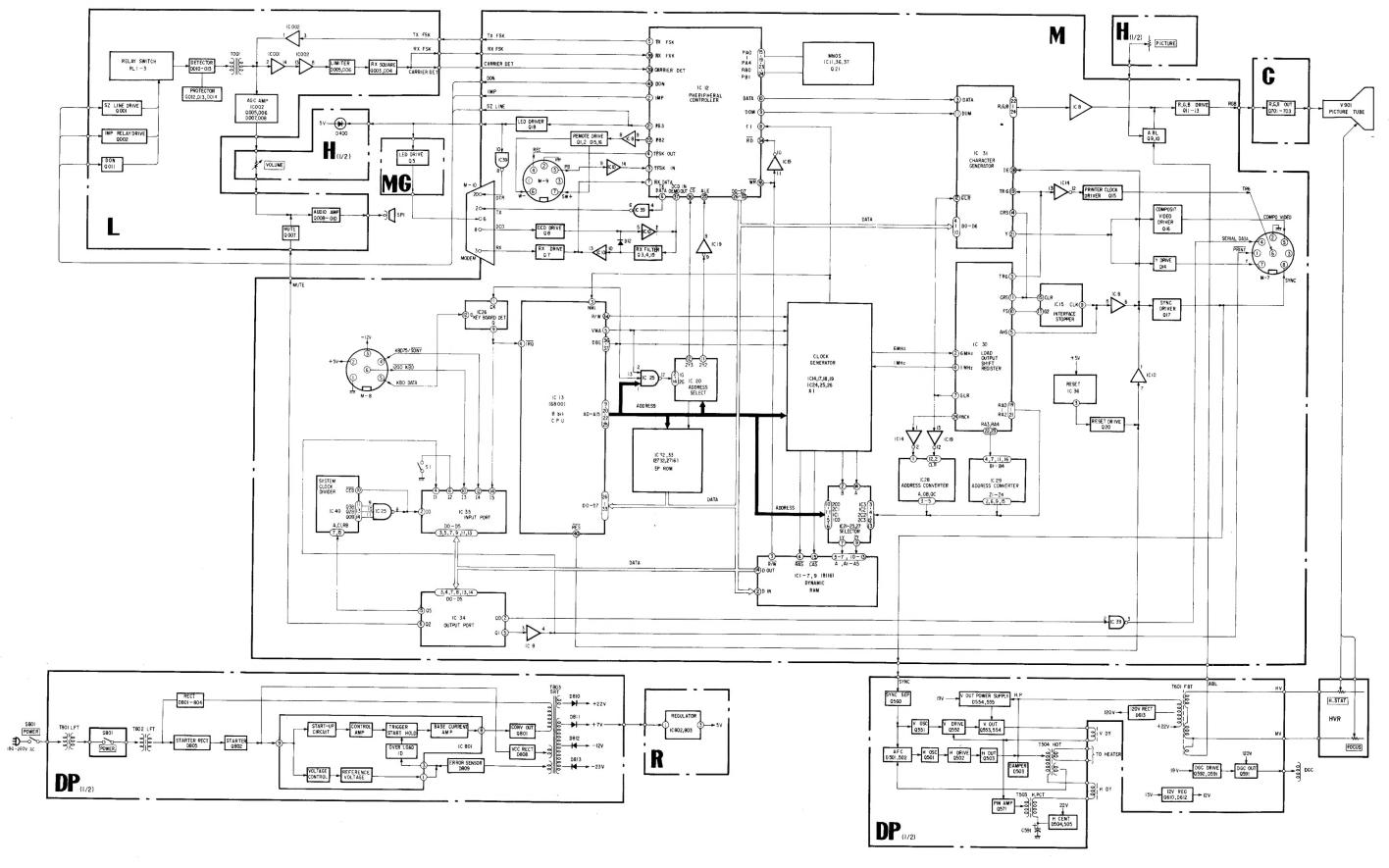
### 3-1. CIRCUIT BOARDS LOCATION



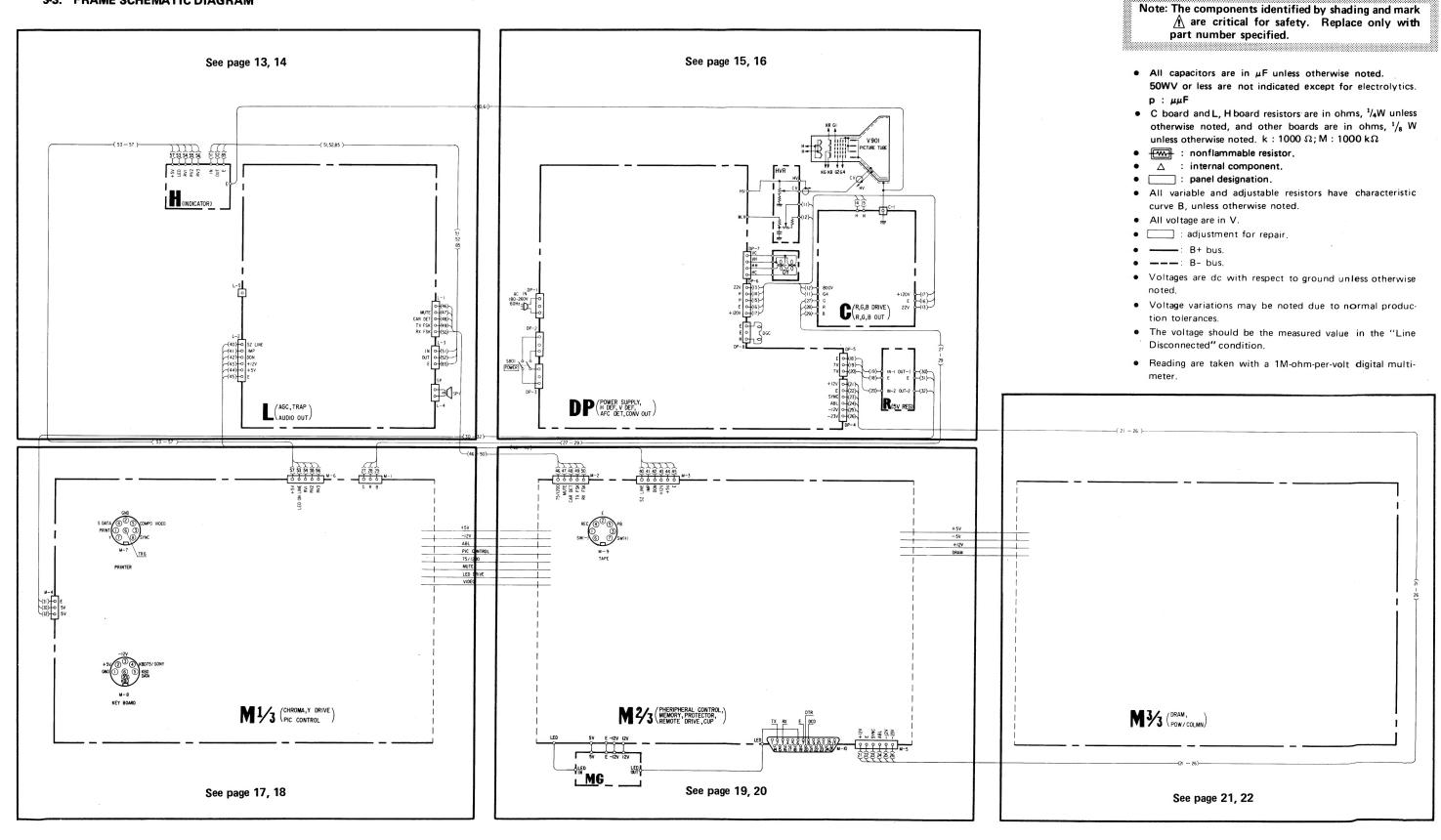
### 3-2. BLOCK DIAGRAM

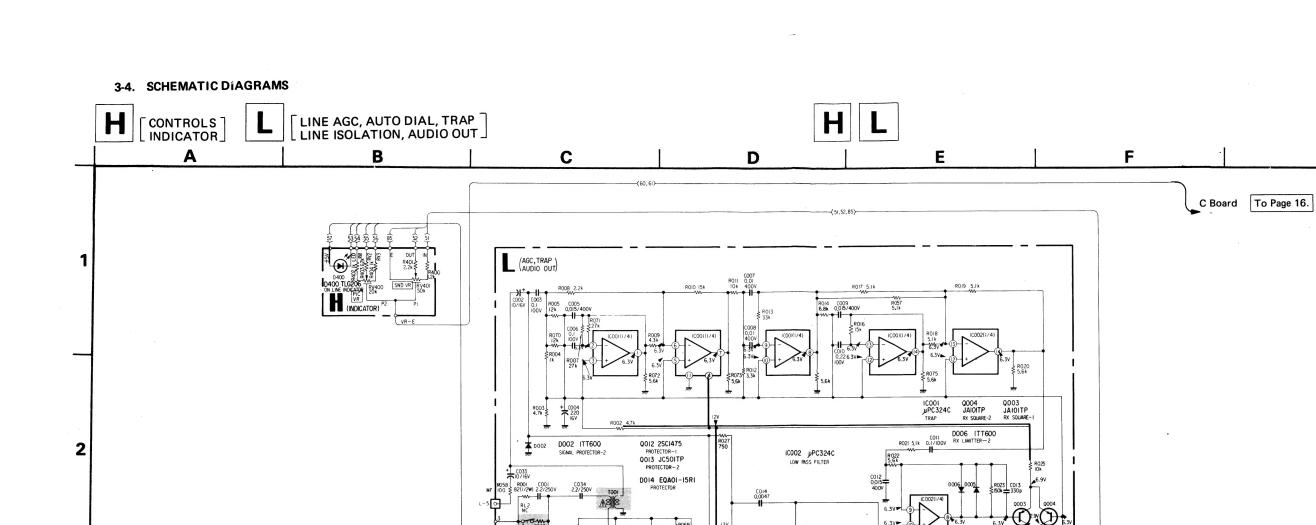


### 3-2. BLOCK DIAGRAM



### 3-3. FRAME SCHEMATIC DIAGRAM





D010-013 S1B01-02

QOO5 JC50ITP LINE AGC-2

**- 13 -**

Note: The components identified by shading and mark

A are critical for safety. Replace only with part number specified.

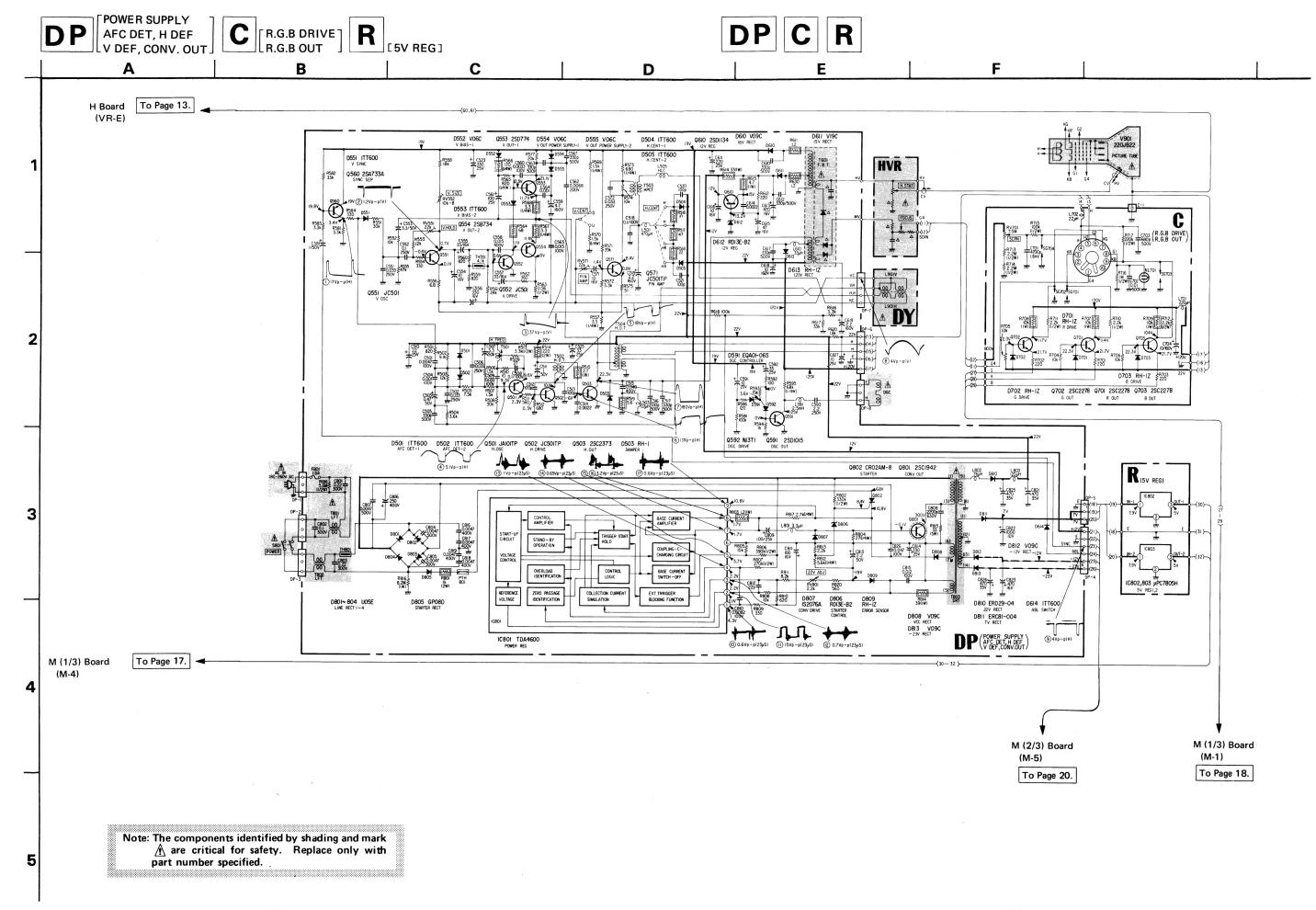
M (1/3) Board (M-6) To Page 17. M (2/3) Board To Page 19.

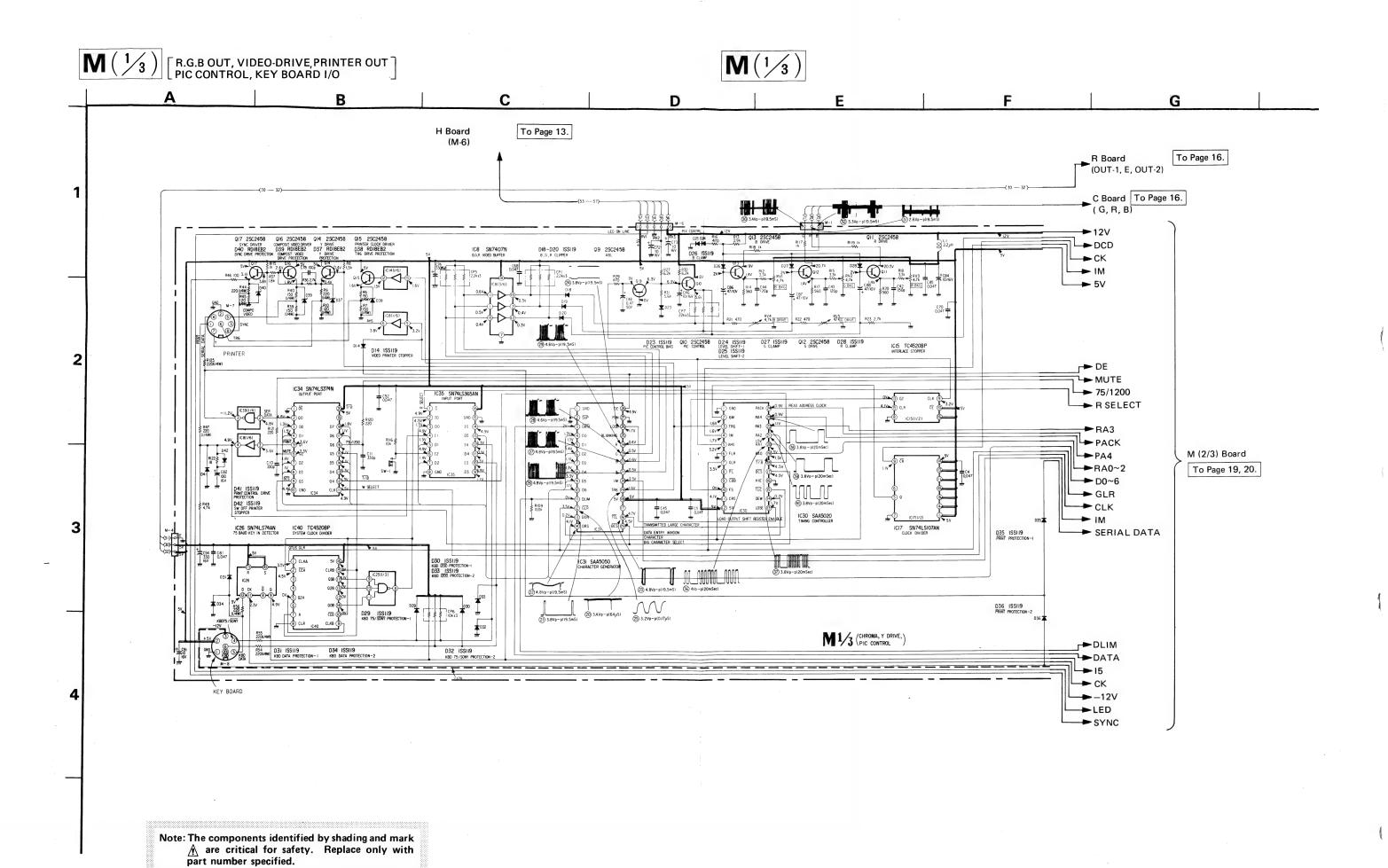
M (2/3) Board To Page 19.

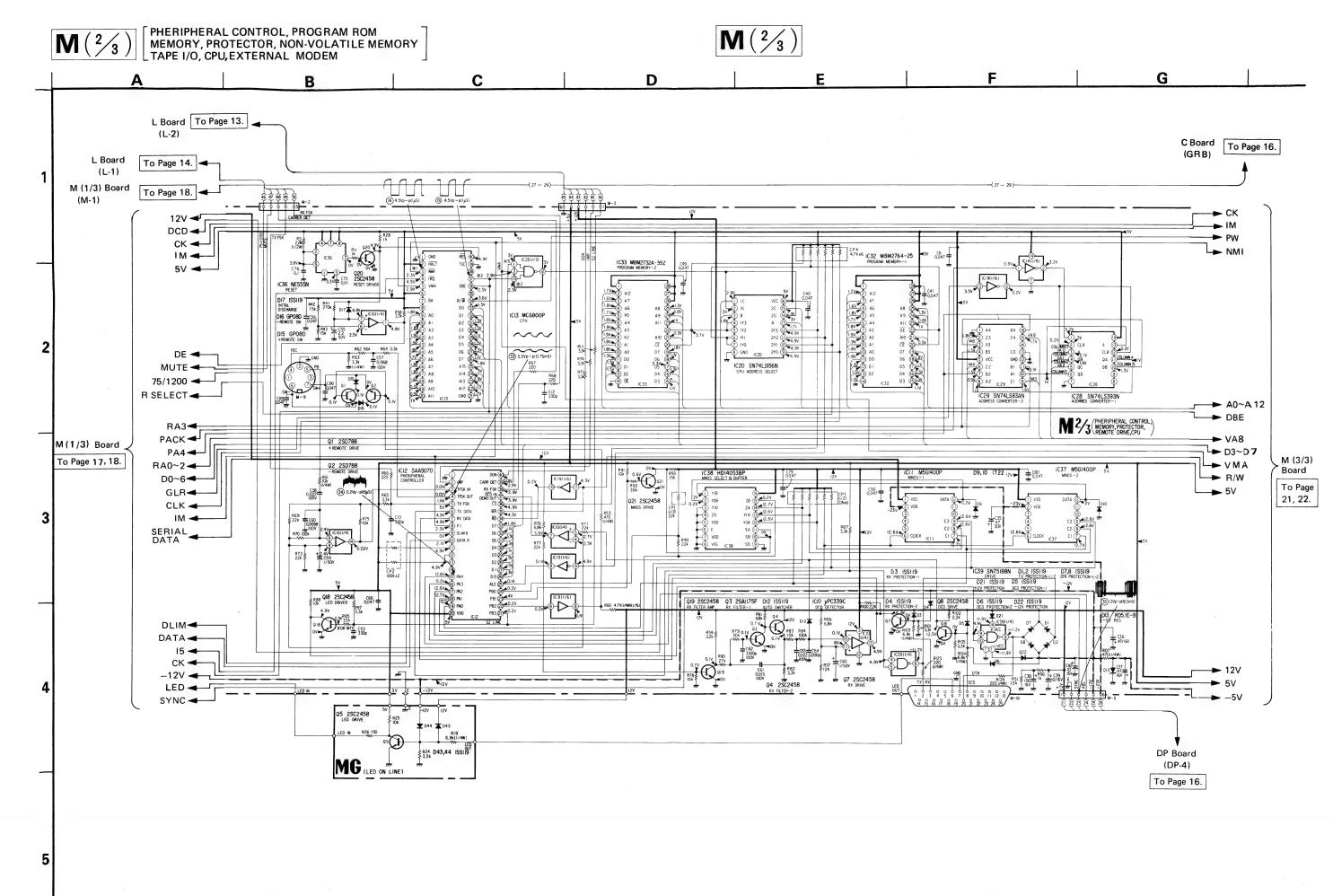
Note: The components identified by shading and mark

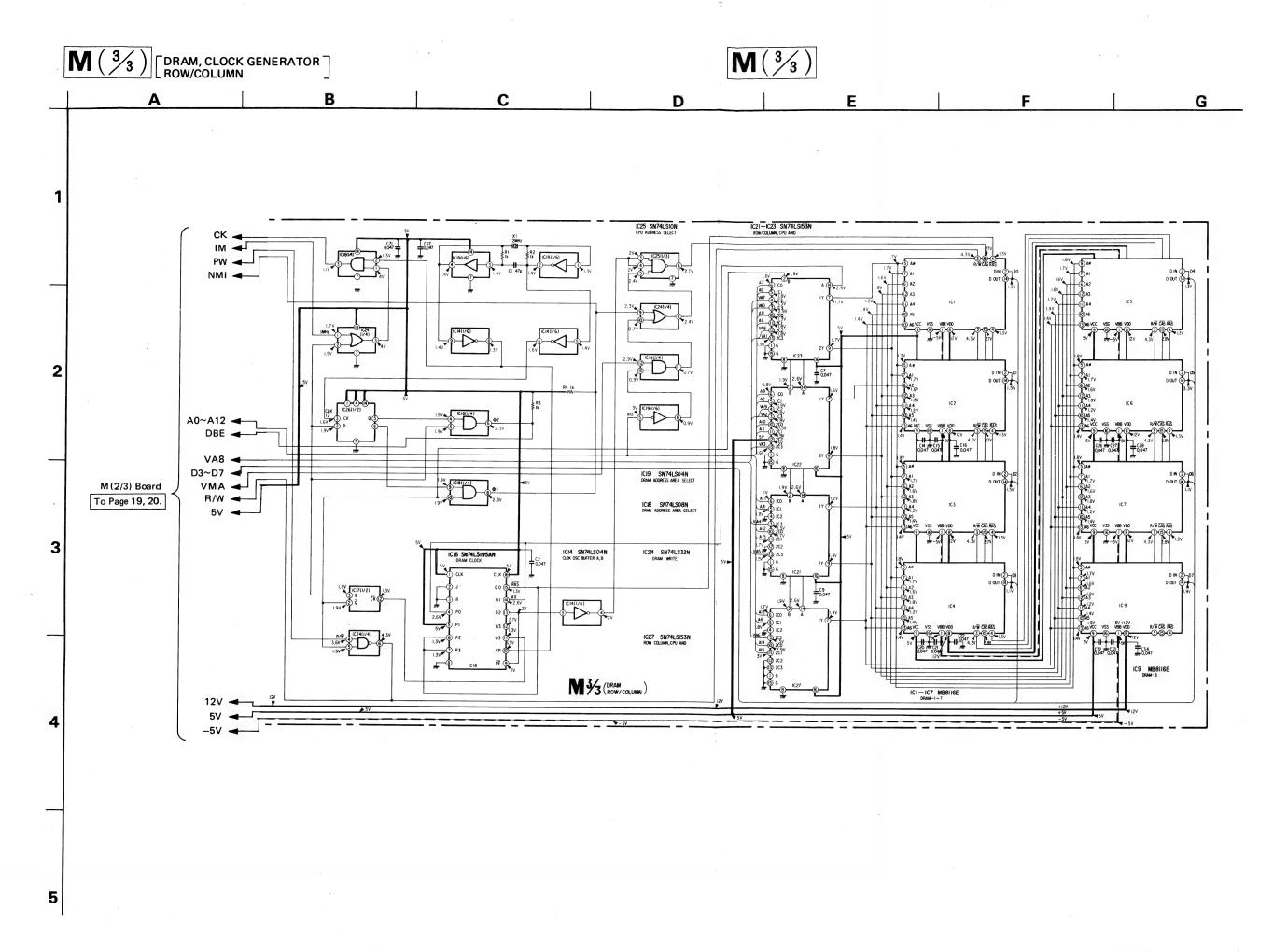
A are critical for safety. Replace only with part number specified.

Q009 JC50ITP 4.9V









R.G.B., VIDEO DRIVE, PIC CONTROL, DRAM ROW/COLUMN, PHERIPHERAL CONTROL, MEMORY, PROTECTOR, TAPE, CPV

A

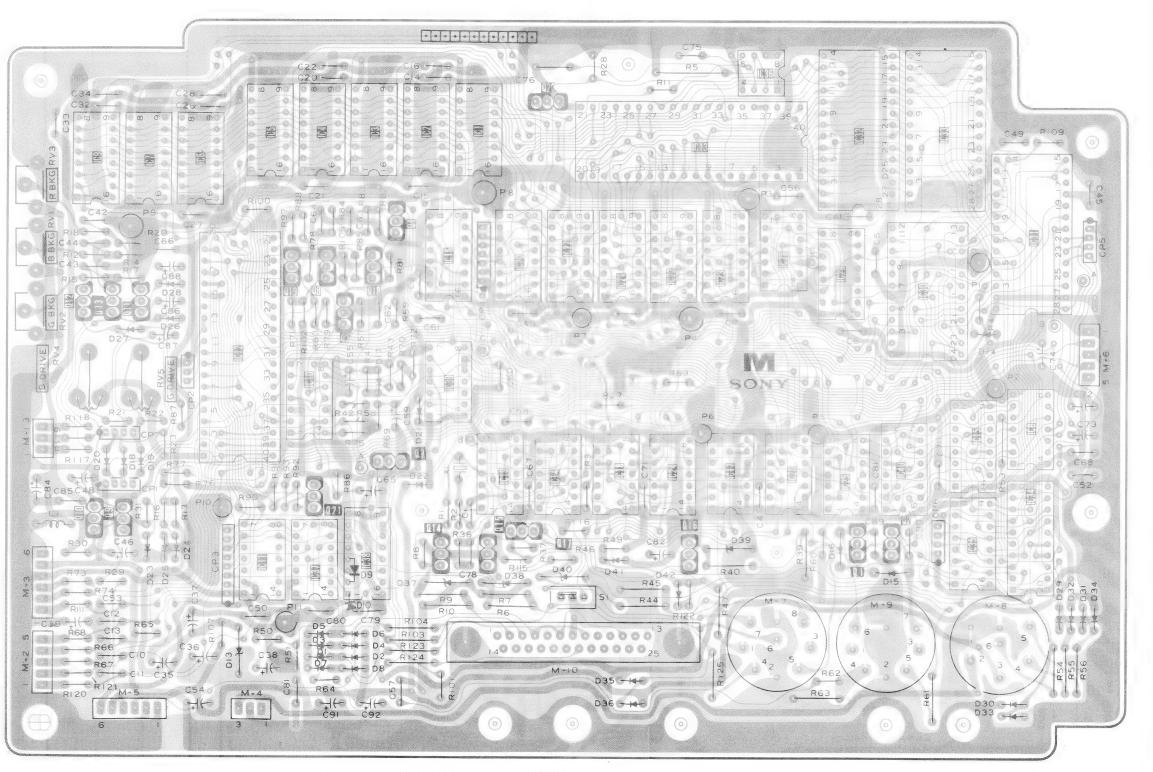
B

C

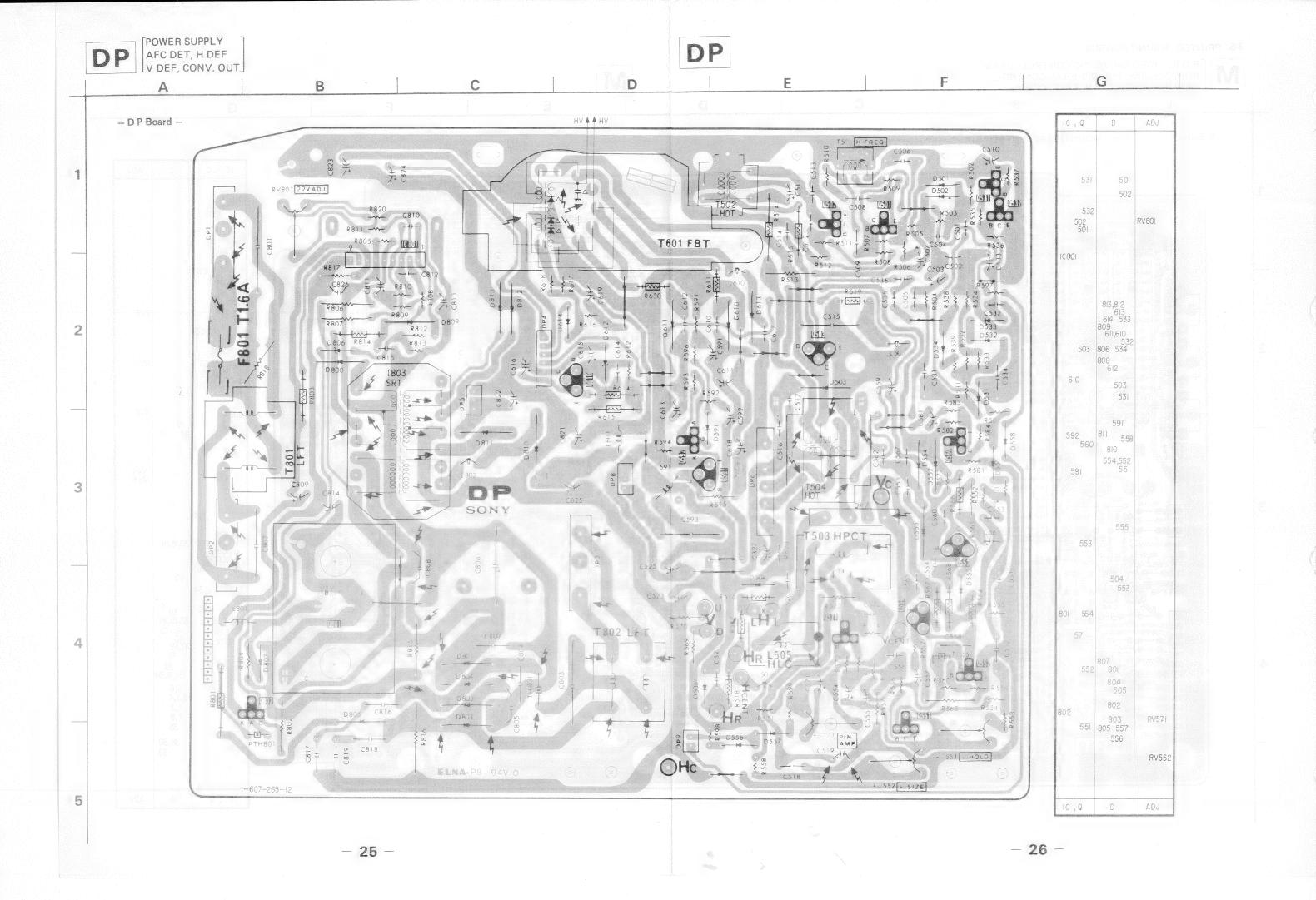
D

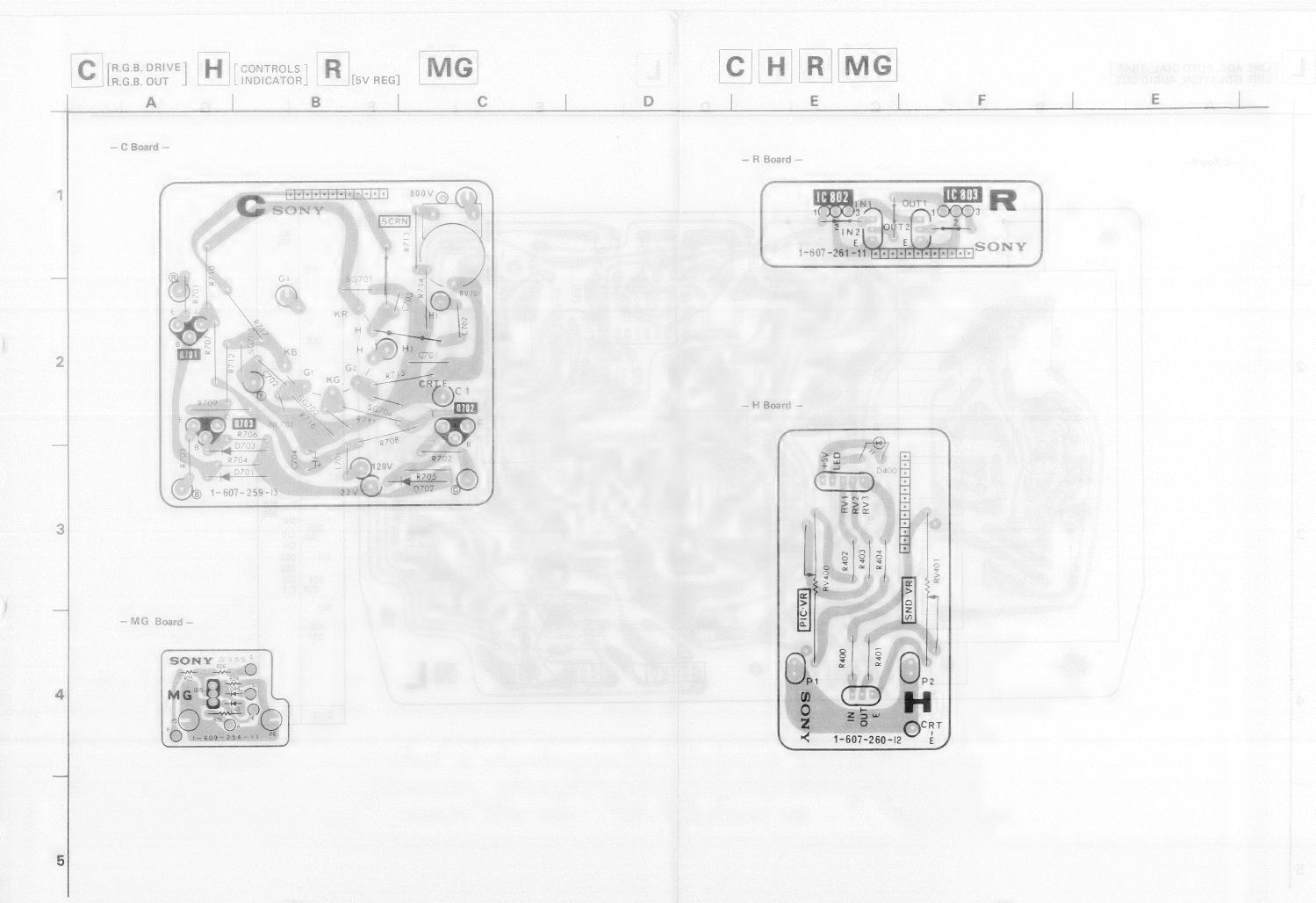
E

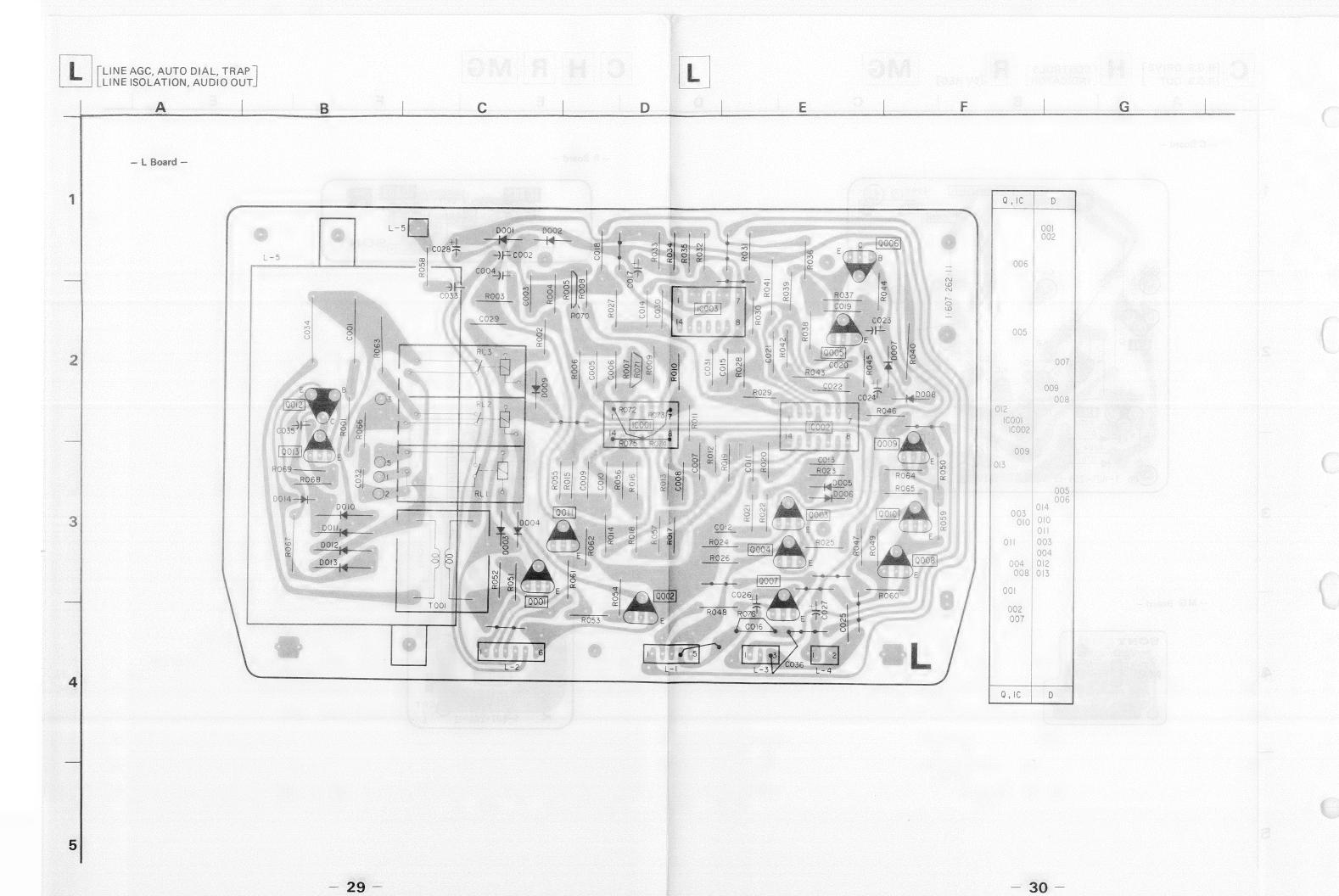
- M Board - MOUNTED WIRING BOARD



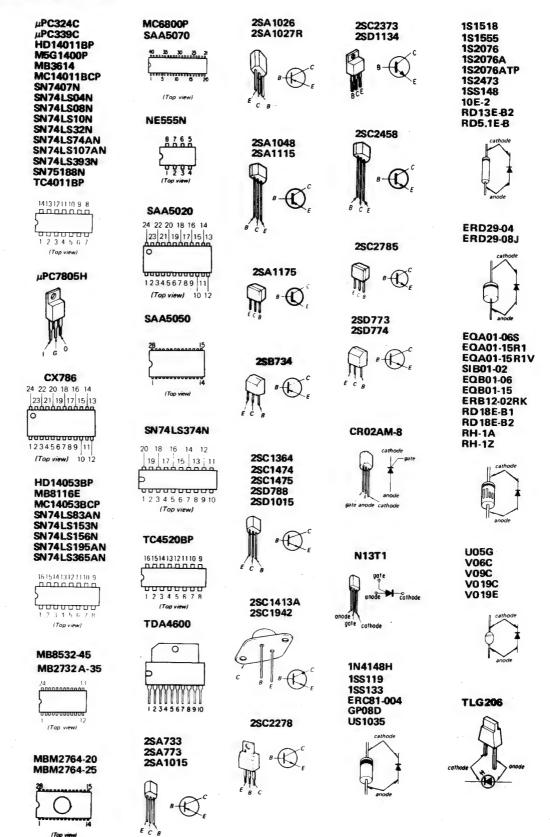
IC , Q	D	ADJ
1036		
1C5 1C33		And the second of the second o
1C4 20 1C3 1C2, IC1		
1032		
IC9 ICIS IC7 IC6		
100		RV3
IC31		
4 ICI6,IC20		
IC27,IC28 19 IC21,IC22		RVI
8 1023,1030	00	
	28	מעמ
12,13,11	26	RV2
	27 14	
ICI2		
IC39	17	RV4 RV5
1010	0.1	
IC8 IC15	21	
ICI5 _ ICI9		
1C15 7 IC19 7 IC14 IC40 IC18 IC25 IC17 IC24 21	20,18,19	
IC17,1C24 IC26		
21 17 1C34	22	
10,9 1,2 1C35	7016	
14,15,16	23,25,24	
IC11 IC37,IC38	41 15 40 37,38	
	42	
	29 32,31,34	
	5,6 13.3.4	
	5,6 13,3,4 1,2 7,8 35	
	36,30 33	
IC , Q	D	ADJ







### 3-6. SEMICONDUCTORS



### **SECTION 4 EXPLODED VIEWS**

### NOTE:

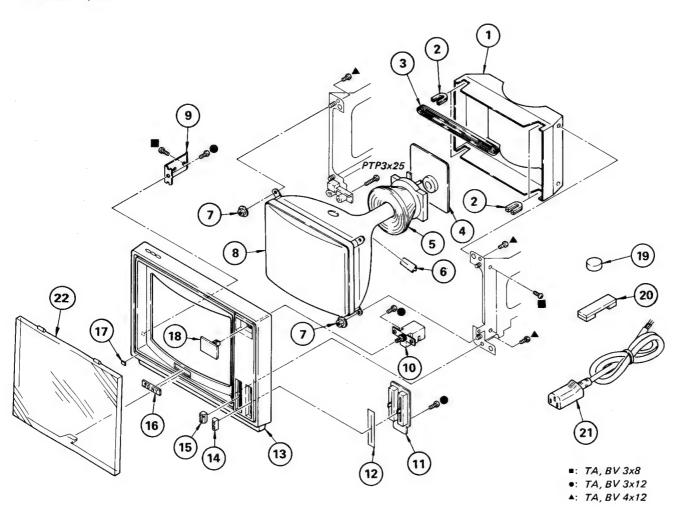
- NOTE:

   Items with no part number and no description are not stocked because they are seldom required for routine service.

   The construction parts of an assembled part are indicated with a collation number in the remark column.
- Items marked " " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

The components identified by shading and mark A are critical for safety. Replace only with part number specified.

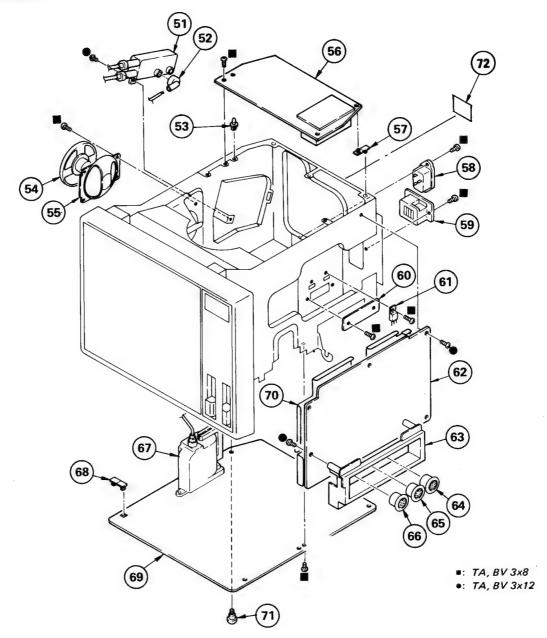
### (1) BEZEL, CRT



KTX-9000UB MECHA

No.	Part No.	Description	Remark	No.	Part No.	Description	Remark
2 4 5 6 7 8	4-304-483-00 1-426-043-00 1-4-1330-368-A 1-451-145-00 4-309-369-00 4-304-749-00 1-304-749-00 1-304-749-00 1-304-749-00	CRT SHIELD ASSY BUSHING, DEGAUSSING COIL COIL, DEGAUSSING C BOARD, COMPLETE DEFLECTION YOKE SPACER, DEFLECTION YOKE NUT, FLANGE PICTURE, TUBE (220JB22) BRACKET, SIDE CHASSIS SWITCH, PUSH H BOARD		13 14 15 16 17 18 19 20	4-344-723-00 4:3-703-352-00 3-831-441-XX 4-344-724-00 1-452-126-11 X-4309-608-0	BEZEL ASSY KNOB (R), SLIDE KNOB (L), SLIDE EMBLEM, SONY CUSHION BUTTON, POWER MAGNET PERMALLOY ASSY, POWER CORD	CONTROL (PICTURE) CONTROL (VOLUME)

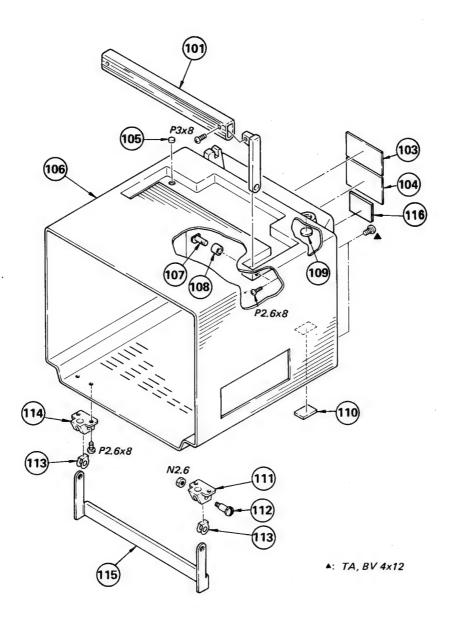
### (2) CHASSIS



No.	Part No.	Description	Remark	No.	Part No.	Description	Remark
52 53 54 55 56 57 58 59	3-705-769-00  4-303-473-00  1-502-509-31  4-344-240-00  A-1394-022-A  3-701-832-00  A-1509-547-00  4-360-210-00  1-607-261-00	SUPPORT, PC SPEAKER BRACKET, SPEAKER L BOARD, COMPLETE HINGE, CIRCUIT BOARD 3P INLET GROMMET R BOARD		63 64 65 66 <b>67</b> 68 69 70	X-4360-231-0 1-561-665-00 1-561-579-00 1-561-580-00 1-561-580-00 4-4313-732-00 4-4313-732-00 4-4360-206-0 4-310-939-00	M BOARD, COMPLETE COVER ASSY, MODEM SOCKET, DIN 8P JACK, DIN 7P JACK, DIN 6P TRANSFORMER ASSY, FLYBACK CLIP, HINGE, CIRCUIT BOARD DP BOARD, COMPLETE PLATE (M) ASSY, SHILED SCREW, TAPPING, STEP LABEL PIB EXEMPION	न्त्र, सन्दर्भ राज्य ।

The components identified by shading and mark A are critical for safe ty.
Replace only with part number specified

### (3) CABINET



No.	Part No.	Description	<u>Remark</u>	No.	Part No.	Description	Remark
101	4-344-720-11	HANDLE		109 110	<b>♦:</b> 4-026-609-00 9-911-852-XX		
103 104	<b>4</b> :4-360-292-01	LABEL PTB EXEMPTION LABEL, MODEL NUMBER		111 112	4-002-791-00 4-002-789-00	BRACKET (RIGHT), LEG SCREW	
105 106	<b>4-314-871-00</b> X-4360-233-0		101,105,107,108 109,110,115,116		4-002-732-02 4-002-790-00 X-4309-316-0	BRACKET (LEFT), LEG	111,112, 113,114
107 108	4-344-707-00 4-344-711-00	SHAFT RUSHING NYLON	105,110,115,110	116		LABEL, VÓLTAGE INDICATI	



### **SECTION 5 ELECTRICAL PARTS LIST**

NOTE:

The components identified by shading and mark A are critical for safety. Replace only with part number specified.

=>: Due to standardization, interchangeable replacements may be substituted for parts specified in the diagrams.

 All variable and adjustable resistors have characteristic curve B, unless otherwise noted.

CAPACITORS • MF : پاپ , PF : پاپ F

RESISTORS

• All resistors are in ohms
• F : nonflammable

COILS • ММН : mH, UH : "н

When indicating parts by reference number, please include the board name.

No.	Part No.	Description	1		Remark	No.	Part No.	Description			Remark
•	<b>.</b> : A-1165-008-A	DP BOARD, C	OMPLETE			C572 C581 C591	1-123-380-00	MYLAR ELECT ELECT	0.033MF 1MF 10MF	10% 20% 20%	250V 50V 25V
	: 1-508-915-11 : 1-509-843-00 : 1-555-352-00	1P CONNECTO CONNECTOR,	MINIATURE 1	,		C592 C593	1-123-331-89	ELECT MYLAR	33MF 2.2MF	20% 10%	25V 25V 250V
•	\$:1-533-087-00 3-701-353-00 3-703-320-00		A			C610 C611 C612	1-123-334-00 1-102-030-00	CERAMIC ELECT CERAMIC	330PF 220MF 330PF	10% 20% 10%	500V 25V 500V
	: 4-314-938-01 : 4-323-833-00	RETAINER (TO		STOR		C613	1-101-002-00	ELECT CERAMIC	470MF 0.0022MF	20%	16V 50V
	CAF	PACITOR				C615	1-123-356-00	ELECT ELECT	47MF 10MF	20% 20%	16V 16V
C501	1-108-622-91	MVLAD	0.004745	100	1004	C617	1-102-030-00 1-121-999-00	CERAMIC ELECT	330PF 10MF	10%	500V
C502 C503	1-130-247-00 1-123-351-89	MYLAR ELECT	0.0047MF 0.033MF 0.47MF	10% 10% 20%	100V 250V 50V	C619		ELECT	2.2MF	20%	160V 160V
C504	1-108-614-91	MYLAR	0.001MF	10%	1000		▲.1-130-238-00	FILM	0.22MF	20%	3000
C505	1-102-030-00	CERAMIC	330PF	10%	500V		A-1-130-236-00 A-1-130-238-00	FILM FILM	0.1MF 0.22MF	20% 20%	300V
C506	1-130-247-00	MYLAR	0.033MF	10%	250V	C804		CERAMIC	0.0047MF	99%	500V
C507	1-123-354-00	ELECT	3.3MF	20%	50V	C805	1-102-085-00	CERAMIC	0.0047MF	99%	500V
C508	1-108-389-00	MYLAR	0.1MF	10%	100V						
C509	1-130-272-00	FILM	0.033MF	5%	100V	C806	1-125-302-00	ELECT (BLOCK)		99%	400V
C510	1-123-330-00	ELECT	22MF	20%	25V	C807	1-102-085-00	CERAMIC	0.0047MF		500V
0511	1 102 200 00	E. E. E.				C808	1-129-898-00	FILM	0.0022MF	5%	630V
C511 C512	1-123-380-00	ELECT	1MF	20%	50V	C809	1-123-333-89 1-108-625-91	ELECT	100MF	20%	25V
C512	1-102-106-00 1-102-106-00	CERAMIC CERAMIC	100PF	10%	50V	1 6010	1-100-023-91	MYLAR	0.0082MF	10%	100V
C514	1-101-002-00	CERAMIC	100PF 0.0022MF	10%	50V	C811	1-123-320-89	ELECT	100MF	20%	16V
C515	1-130-567-00	FILM	0.0022MF	3%	50V 400V	C812	1-102-959-00	CERAMIC	22PF	10%	50V
0010	1-130-307-00	LILI	0.045/11	36	4001	C813	1-123-353-00	ELECT	2.2MF	20%	507
C516	1-102-030-00	CERAMIC	330PF	10%	500V	C814	1-123-335-00	ELECT	330MF	20%	25V
C517	1-102-030-00	CERAMIC	330PF	10%	500V	C815	1-108-627-91	MYLAR	0.012MF	10%	100V
C518	1-108-389-00	MYLAR	0.1MF	10%	100V						
C519	1-123-267-00	ELECT	2.2MF	20%	160V	C816	1-161-743-00	CERAMIC	0.0047MF		400V
C520	1-102-106-00	CERAMIC	100PF	10%	50V	C817	1-161-743-00	CERAMIC	0.0047MF		400V
0501	1 100 105 00					C818	1-161-743-00	CERAMIC	0.0047MF		400V
C521	1-102-106-00	CERAMIC	100PF	10%	50V	C819	1-161-743-00	CERAMIC	0.0047MF		400V
C523 C525	1-123-335-00	ELECT	330MF	20%	25V	C821	1-123-348-00	ELECT	470MF	20%	35V
C551	1-123-331-89 1-130-247-00	ELECT MYLAR	33MF 0.033MF	20%	25V	C822	1-123-311-00	ELECT	1000MF	20%	10V
C552	1-108-389-00	MYLAR	0.1MF	10% 10%	250V 250V	C823	1-123-323-00	ELECT	470MF	20%	16V
0002	1-100-303-00	MILAN	0.1111	10%	2304	C824	1-123-348-00	ELECT	470MF	20%	35V
C553	1-123-354-00	ELECT	3.3MF	20%	50V	C825	1-123-348-00	ELECT	470MF	20%	35V
C554		ELECT	10MF	20%	16V	C826	1-108-385-00	MYLAR	0.047MF	10%	100V
C 555	1-123-318-00	ELECT	33MF	20%	16V						
C556		ELECT	330MF	20%	167	C827	1-123-356-00	ELECT	10MF	20%	25V
C557	1-123-318-00	ELECT	33MF	20%	16V						
0.550	1 100 400 00						<u>DI 0</u>	<u>DE</u>			
C 558	1-108-423-00	MYLAR	0.015MF	10%	400V	0501	->0 710 015 55	DIODE 101555			
C 559 C 560	1-123-269-00 1-108-620-91	ELECT	4.7MF	20%	160V		=>8-719-815-55 =>8-719-815-55	DIODE 151555			
C 561	1-123-333-89	MYLAR ELECT	0.0033MF 100MF	10% 20%	100V 25V		=>8-719-300-76	DIODE 1S1555 DIODE RH1A			
C 562	1-108-419-00	MYLAR	0.0068MF	10%	200V		=>8-719-815-55	DIODE 151555			
			51000011	100	2001		=>8-719-815-55	DIODE 151555			
C 563	1-102-030-00	CERAMIC	330PF	10%	500V						
C 564	1-102-074-00	CERAMIC	0.001MF	10%	50V		=>8-719-815-55	DIODE 1S1555			
C 565	1-108-379-00	MYLAR	0.015MF	10%	100V		=>8-719-900-93	DIODE VO9C			
C 567	1-102-030-00	CERAMIC	330PF	10%	500V		=>8-719-815-55	DIODE 1S1555			
C 571	1-123-356-00	ELECT	10MF	20%	16V		=>8-719-900-93	DIODE VO9C			
					1	บรรร	=>8-719-900-93	DIODE VO9C			



No.	Part No.	Description	Remark	No.	Part No.	Description				Remark
D610 D611 D612	=>8-719-931-06 8-719-900-93 =>8-719-901-93 8-719-100-68 =>8-719-300-76	DIODE EQB01-06 DIODE VO9C DIODE V19E DIODE RD13E-B2 DIODE RHIZ		Q503 Q551 = Q552 = Q553 Q554	*> 8-729-663 -47 8-729-137-32 >> 8-729-663-47 >> 8-729-663-47 8-729-177-43 8-729-103-43	TRANSISTOR 2SITRANSISTOR 2SITR	C2373 C1364 C1364 D774 B734			
D801 D802 D803	=>8-719-815-55 =>8-719-911-55 =>8-719-911-55 =>8-719-911-55 =>8-719-911-55	DIODE U05G DIODE U05G DIODE U05G			=>8-729-117-54 =>8-729-663-47 8-765-620-00 8-729-101-31 8-729-313-42	TRANSISTOR 2S TRANSISTOR 2S TRANSISTOR 2S TRANSISTOR NI TRANSISTOR 2S	C1364 D1015 3T1			
D806	=>8-719-200-02 8-719-100-68 =>8-719-815-85 8-719-900-93	DIODE RD13E-B2 DIODE 1S1518		Q801 Q802		TRANSISTOR 25 THYRISTOR CRO SISTOR				
	=>8-719-300-76 =>8-719-900-26 8-719-981-00 8-719-900-93 8-719-900-93	DIODE ERD29-08J DIODE ERC81-004 DIODE VO9C		R501 R502 R503 R504 R505	1-246-782-00 1-246-855-00 1-246-796-00 1-246-850-99 1-246-854-00	CARBON CARBON CARBON CARBON CARBON	820 9.1K 12K 3.6K 7.5K		1/8W 1/8W 1/8W 1/8W 1/8W	
	<u>co</u>	NNECTOR		R506 R507	1-246-785-00 1-246-785-00	CARBON CARBON	1.5K 1.5K		1/8W 1/8W	
DP1 DP2 DP3	1-506-348-XX 1-506-348-XX 1-506-348-XX	3P PLUG (L) 3P PLUG (L)		R508 R509 R510	1-246-861-00 1-246-764-99 1-246-759-00	CARBON CARBON CARBON	30K 27 10		1/8W 1/8W 1/8W	
DP5		PLUG, CONNECTOR (2.5MM) 6P PLUG, CONNECTOR (2.5MM) 3P 5P PLUG		R511 R512 R513	1-246-780-00 1-246-781-00 1-244-885-00	CARBON CARBON CARBON	560 680 3.3K	5%	1/8W 1/8W 1/2W	_
DP7	<b>1</b> :1-508-766-00			R514 R515	1-206-648-00 1-212-365-00	METAL METAL	220 2.7	5% 5%	2W 1W	F F
and the second second second	<u>FU</u>	SE	rar iki sukilisindas	R516 R517	1-211-409-00 1-211-933-00	CARBON CARBON	10 47	5% 5%	1/8W 1/8W	F F
F801	<u>A. 1-532-259-00</u> <u>I</u> 0	FUSE, TIME-LAG 16A		R518 R519 R551	1-211-417-00 1-211-403-00 1-246-861-00	CARBON CARBON CARBON	22 5.6 30K	5% 5%	1/8W 1/8W 1/8W	F F
1080	7 -685-646-71	HEAT SINK (D), IC801 SCREW +BVTP 3x8 TYPE2 IT-3, IC8	01	R552 R553 R554 R555	1-246-795-00 1-246-796-00 1-246-777-00 1-246-803-00	CARBON CARBON CARBON CARBON	10K 12K 330 47K		1/8W 1/8W 1/8W 1/8W	
		<u>IL</u>		R556	1-246-757-99	CARBON	6.8		1/8W	
L501 L503 L505 L591 L610	1-407-365-00 1-459-196-00 1-459-109-00	MICRO INDUCTOR 470UH COIL, CHOKE HLC COIL, DUST CORE MICRO INDUCTOR 33UH		R557 R558 R559 R560 R561	1-215-092-00 1-246-798-00 1-246-782-00 1-246-782-00 1-246-860-00	METAL CARBON CARBON CARBON CARBON	3.3 18K 820 820 24K	5%	1/4W 1/8W 1/8W 1/8W 1/8W	
L801 L802 L803		MICRO INDUCTOR 3.3ÜH COIL, AIR-CORE, QF TYPE CORE COIL		R562 R563	1-246-838-00 1-207-460-00	CARBON WIREWOUND		10%	1/8W 1/2W	_
	<u>TH</u>	ERMISTOR		R564	1-247-032-00 1-215-150-00	CARBON METAL	68 820	5% 5%	1/8W 1/4W	F
РТН80		THERMISTOR (POSITIVE)		R566	1-211-524-00	CARBON	120	5%	1/4W	F -
	TR	ANSISTOR		R567 R568	1-246-413-00 1-246-413-00	CARBON CARBON	3.3 3.3	5% 5%	1/4W 1/4W	F F
Q501	<b>=&gt;</b> 8-729-612 -77	TRANSISTOR 2SA1027R		R569	1-215-156-00	METAL	1.5K	5%	1/4W	

NOTE:

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No.	Part No.	Description				Remark	No.	Part No.	Description			Remark
R570 R571 R572	1-215-156-00 1-246-802-00 1-246-789-00	METAL CARBON CARBON	1.5K 39K 3.3K	5%	1/4W 1/8W 1/8W		T501	<u>TRA</u> 1-405-760-00	COIL, OSC			
R573 R574 R575	1-215-148-00 1-246-795-00 1-246-828-00	METAL CARBON CARBON	680 10K 51	5%	1/4W 1/8W 1/8W		T502 T503 T504	1-437-021-00 1-421-268-00 1-439-259-00	TRANSFORMER H.PCT TRANSFORMER	, HORIZONTAL		. de loss
R577 R581 R582	1-246-859-00 1-246-789-00 1-246-801-00	CARBON CARBON CARBON	20K 3.3K 33K		1/8W 1/8W 1/8W		T802 A	1-421-352-00 1-441-855-00 1-447-365-00	TRANSFORMER TRANSFORMER TRANSFORMER	, HEATER INS	ULATION	
R583	1-246-789-00	CARBON	3.3K		1/8W		Contracts	THE	RMISTOR	[1] [1] [1] [1] [1] [1] [1] [1] [1] [1]	grigge statistical c	Print Print
R584 R591 R592 R593 R594	1-246-777-00 1-246-807-00 1-246-771-00 1-246-797-00 1-246-783-00	CARBON CARBON CARBON CARBON CARBON	330 100K 100 15K 1K		1/8W 1/8W 1/8W 1/8W 1/8W		TH801/	1-800-070-XX 4-1-800-820-00	THERMISTOR,	POWER	*****	*****
R595 R596 R611	1-215-196-00 1-246-772-00 1-246-979-00	METAL CARBON CARBON	68K 120 1.2	5% 5%	1/4W 1/8W 1/8W	F	•	: A-1306-242-A 4-360-293-00	M BOARD, CO	*****		
R612 R614	1-246-775-00 1-213-125-00	CARBON METAL	220 33	5%	1/8W 1W	F	•	4-360-294-00 CAP	BOLT, SPECIAL ACITOR	-		
R615 R616 R617 R618 R620	1-212-368-00 1-246-789-00 1-246-801-00 1-246-807-00 1-246-786-00	METAL CARBON CARBON CARBON CARBON	4.7 3.3K 33K 100K 1.8K	5%	1W 1/8W 1/8W 1/8W 1/8W	F	C1 C2 C4 C5 C6	1-101-880-00 1-101-006-00 1-101-006-00 1-101-006-00 1-101-006-00	CERAMIC CERAMIC CERAMIC CERAMIC CERAMIC	47PF 0.047MF 0.047MF 0.047MF 0.047MF	5%	50V 50V 50V 50V 50V
R630 R801 R802 R803 R804	1-246-979-00 1-206-664-00 1-244-933-51 1-212-361-00 1-215-114-00	CARBON METAL CARBON METAL METAL	1.2 1K 330K 1.2 27	5% 5% 5% 5% 5%	1/8W 2W 1/2W 1W 1/4W	F F	C7 C9 C10 C11 C12	1-101-006-00 1-101-006-00 1-102-112-00 1-102-112-00 1-102-112-00	CERAMIC CERAMIC CERAMIC CERAMIC CERAMIC	0.047MF 0.047MF 330PF 330PF 330PF	10% 10% 10%	50V 50V 50V 50V 50V
R805 R806 R807 R808 R809	1-246-795-00 1-244-935-51 1-244-931-51 1-246-795-00 1-246-777-00	CARBON CARBON CARBON CARBON CARBON	10K 390K 270K 10K 330	5% 5%	1/8W 1/2W 1/2W 1/8W 1/8W		C13 C14 C15 C16 C20	1-102-112-00 1-101-006-00 1-101-006-00 1-101-006-00 1-101-006-00	CERAMIC CERAMIC CERAMIC CERAMIC CERAMIC	330PF 0.047MF 0.047MF 0.047MF 0.047MF	10%	50V 50V 50V 50V 50V
R810 R811 R812 R813 R814	1-246-841-00 1-246-794-00 1-215-170-00 1-246-787-00 1-213-126-00	CARBON CARBON METAL CARBON METAL	620 8.2K 5.6K 2.2K 39	5% 5%	1/8W 1/8W 1/4W 1/8W 1W	F	C21 C22 C26 C27 C28	1-101-006-00 1-101-006-00 1-101-006-00 1-101-006-00 1-101-006-00	CERAMIC CERAMIC CERAMIC CERAMIC CERAMIC	0.047MF 0.047MF 0.047MF 0.047MF 0.047MF		50V 50V 50V 50V 50V
R815 R816 R817 R818 A	1-205-598-00 1-247-289-00 1-215-162-00 1-202-663-15 1-246-780-00	CEMENT-COATED CARBON ************************************	8.2M	10% 5% 5% <b>5%</b>	5W 1W 1/4W 1/2W 1/8W		C32 C33 C34 C35 C36	1-101-006-00 1-101-006-00 1-101-006-00 1-123-359-00 1-123-332-00	CERAMIC CERAMIC CERAMIC ELECT ELECT	0.047MF 0.047MF 0.047MF 47MF 47MF	20% 20%	50V 50V 50V 50V 16V
	VAR	IABLE RESISTOR					C37	1-123-332-00	ELECT	47MF	20%	16V
R V551 R V552 R V571 R V801	1-224-646-XX 1-224-645-XX 1-224-646-XX 1-224-643-XX	RES, ADJ, CARI RES, ADJ, CARI RES, ADJ, CARI RES, ADJ, CARI	BON 10	K K			C38 C39 C40 C41	1-123-333-00 1-123-356-00 1-101-006-00 1-101-006-00	ELECT ELECT CERAMIC CERAMIC	100MF 10MF 0.047MF 0.047MF	20% 20%	16V 16V 50V 50V
							C42 C43 C44 C45	1-102-108-00 1-102-107-00 1-102-107-00 1-101-006-00	CERAMIC CERAMIC CERAMIC CERAMIC	150PF 120PF 120PF 0.047MF	10% 10% 10%	50V 50V 50V 50V

NOTE:

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No.	Part No.	Description			Remark	No.	Part No.	Description	<u>Re</u>	emark
C46 C48 C49 C50 C52	1-123-356-00 1-123-379-00 1-101-006-00 1-101-006-00 1-101-006-00	ELECT CERAMIC CERAMIC	10MF 0.47MF 0.047MF 0.047MF 0.047MF	20% 20%	16V 50V 50V 50V 50V	D13 D14 D15 D16 D17	8-719-151-07 8-719-911-19 =>8-719-200-02 =>8-719-200-02 8-719-911-19	DIODE 1SS119 DIODE 10E-2		
C53 C54 C55 C56 C57	1-102-112-00 1-123-322-00 1-123-381-00 1-101-006-00 1-108-387-00	ELECT ELECT CERAMIC	330PF 330MF 2.2MF 0.047MF 0.068MF	10% 20% 20% 10%	50V 16V 50V 50V 100V	D18 D19 D20 D21 D22	8-719-911-19 8-719-911-19 8-719-911-19 8-719-911-19 8-719-911-19	DIODE 1SS119 DIODE 1SS119 DIODE 1SS119 DIODE 1SS119 DIODE 1SS119		
C58 C59 C60 C61 C62	1-108-381-00 1-123-380-00 1-108-375-00 1-108-379-00 1-108-371-00	ELECT MYLAR MYLAR	0.022MF 1MF 0.0068MF 0.015MF 0.0033MF	10% 20% 10% 10% 10%	100V 50V 100V 100V 100V	D23 D24 D25 D26 D27	8-719-911-19 8-719-911-19 8-719-911-19 8-719-911-19 8-719-911-19	DIODE 1SS119		
C63 C64 C65 C66 C67	1-108-381-00 1-102-121-00 1-123-380-00 1-101-006-00 1-101-006-00	CERAMIC ELECT CERAMIC	0.022MF 0.0022MF 1MF 0.047MF 0.047MF	10% 10% 20%	100V 50V 50V 50V 50V	D28 D29 D30 D31 D32	8-719-911-19 8-719-911-19 8-719-911-19 8-719-911-19 8-719-911-19	DIODE 1SS119 DIODE 1SS119 DIODE 1SS119 DIODE 1SS119 DIODE 1SS119		
C68 C70 C71 C72 C73	1-101-006-00 1-101-006-00 1-101-006-00 1-123-356-00 1-123-356-00	CERAMIC CERAMIC ELECT	0.047MF 0.047MF 0.047MF 10MF 10MF	20% 20%	50V 50V 50V 16V 16V	D33 D34 D35 D36 D37	8-719-911-19 8-719-911-19 8-719-911-19 8-719-911-19 =>8-719-100-76	DIODE 1SS119 DIODE 1SS119 DIODE 1SS119 DIODE 1SS119 DIODE RD18E-B1		
C74 C75 C76 C78 C79	1-123-322-00 1-101-004-00 1-108-251-00 1-102-106-00 1-101-006-00	CERAMIC MYLAR CERAMIC	330MF 0.01MF 0.1MF 100PF 0.047MF	20% 10% 10%	16V 50V 50V 50V 50V	D38 D39 D40 D41 D42	=>8-719-100-76 =>8-719-100-76 8-719-911-19	DIODE RD18E-B1 DIODE RD18E-B1 DIODE RD18E-B1 DIODE 1SS119 DIODE 1SS119		
C80 C81 C82 C84 C85	1-101-006-00 1-101-006-00 1-123-333-00 1-123-356-00 1-101-006-00	CERAMIC ELECT ELECT	0.047MF 0.047MF 100MF 10MF 0.047MF	20% 20%	50V 50V 16V 16V 50V	IC1 IC2 IC3 IC4	IC 8-759-981-17 8-759-981-17 8-759-981-17 8-759-981-17	IC MB8116E IC MB8116E		
C86 C87 C88 C89 C90	1-123-306-00 1-123-306-00 1-123-306-00 1-101-006-00 1-101-006-00	ELECT ELECT CERAMIC	47MF 47MF 47MF 0.047MF 0.047MF	20% . 20% 20%	10V 10V 10V 50V 50V	IC5 IC6 IC7 IC8 IC9	8-759-981-17	IC MB8116E IC MB8116E IC MB8116E IC SN7407N		
C 91 C 92	1-123-356-00 1-123-356-00		10MF 10MF	20% 20%	16V 16V	IC10	8-759-133-90	IC UPC339C		
	DIC	DDE				IC11 IC12	8-759-600-16 8-759-905-54 8-759-000-00	IC SAA5070		
D1 D2 D3 D4 D5	8-719-911-19 8-719-911-19 8-719-911-19	DIODE 1SS119 DIODE 1SS119 DIODE 1SS119 DIODE 1SS119 DIODE 1SS119				IC13 IC14 IC15 IC16 IC17	8-759-900-04 8-759-245-20 8-759-901-95 8-759-901-07	IC SN74LS04N IC TC4520BP IC 74LS195AN IC SN74LS107AN		
	8-719-911-19		)			IC18 IC19 IC20 IC21	8-759-900-04 8-759-901-56	IC SN74LS08N IC SN74LS04N IC SN74LS156N IC SN74LS153N		
D12		DIODE 1SS119								



No.	Part No.	Description	Remark	No.	Part No.	Description				Remark
I C22 I C23		IC SN74LS153N IC SN74LS153N			RES	ISTOR				
IC24		IC SN74LS32N		R1	1-246-783-00		1K		1/8W	
I C 25 I C 26		IC SN74LS10N IC SN74LS74AN		R2	1-246-783-00 1-246-783-00	CARBON CARBON	1K 1K		1/8W	
1020	0-733-300-74	10 311/403/401		R4	1-246-783-00		1K		1/8W 1/8W	
I C 27		IC SN74LS 153N		R5	1-202-723-00	COMPOSITION	2.2M	10%	1/2W	
I C 28 I C 29		IC SN74LS393N IC SN74LS83AN		R6	1-246-453-00	CARBON	150	5%	1/4W	
IC30				R7	1-246-453-00		150	5%	1/4W	
IC31	8-759-950-50	IC SAA5050		R8	1-246-785-00		1.5K		1/8W	
I C 32	8-759-760-04	TC MBM2764-25		R9 R10	1-246-457-00 1-246-451-00	CARBON CARBON	220 120	5% 5%	1/4W 1/4W	
IC33	8-759-750-19	IC 2732A-35Z		1 1 1	1 2 10 131 00	CARDON	120	3,6	1/ 18	
I C 34		IC SN74LS 374N		R11	1-246-783-00		1K		1/8W	
I C 35 I C 36		IC 74LS365AN		R12	1-246-789-00 1-246-790-00		3.3K 3.9K		1/8W 1/8W	
		10 11233311		R14	1-246-780-00		560		1/8W	
IC37				R15	1-246-789-00	CARBON	3.3K		1/8W	
I C 38 I C 39		IC HD14053BP IC SN75188N		R16	1-246-779-00	CARBON	470		1/8W	
I C 40				R17	1-246-780-00		560		1/8W	
	001			R18	1-246-789-00		3.3K		1/8W	
	<u>C01</u>	<u> </u>		R20 R21	1-246-780-00 1-246-779-00		560 470		1/8W 1/8W	
L1	1-407-685-00	MICRO INDUCTOR 2.2UH								
	CON	INECTOR		R22 R23	1-246-779-00 1-246-788-00		470 2.7K		1/8W 1/8W	
	CON	MECTOR		R27	1-246-853-00		6.2K		1/8W	
		PLUG, CONNECTOR (2.5MM) 3		R28	1-246-783-00		1K		1/8W	
		PLUG, CONNECTOR (2.5MM) 5 PLUG, CONNECTOR (2.5MM) 6		R29	1-246-779-00	CARBON	470		1/8W	
M4	<b>₺:1-560-123-00</b>	PLUG, CONNECTOR (2.5MM) 3	P	R30	1-246-853-00	CARBON	6.2K		1/8W	
M5	<b>∆</b> :1-560-126-00	PLUG, CONNECTOR (2.5MM) 6	P	R31	1-246-792-00		5.6K		1/8W	
M6	<b>▲</b> :1-560-125-00	PLUG, CONNECTOR (2.5MM) 5	p	R36 R37	1-246-788-00 1-246-786-00		2.7K 1.8K		1/8W 1/8W	
M10		SOCKÉT, CONNECTOR 25P		R39	1-246-453-00		150	5%	1/4W	
	TRA	NSISTOR	j	R40	1-246-453-00		150	5%	1/4W	
01	-\8.720_177_32	TRANSISTOR 2SD773		R41 R42	1-247-046-00		270K		1/8W	
02		TRANSISTOR 2SD773		R42	1-246-797-00 1-246-797-00	CARBON	15K 15K		1/8W 1/8W	
Q3	=>8-729-117-54	TRANSISTOR 2SA1175	Į	R44	1-24€-457-00		220	5%	1/4W	
Q4 Q7	=>8-729-178-54 =>8-729-178-54	TRANSISTOR 2SC2785 TRANSISTOR 2SC2785		R45	1-246-451-00	CAPRON	120	5%	1/4W	
۷,	-70-723-170-34	TIGHTS TON ESCET OS	1	R46	1-246-771-00		100	3,6	1/8W	
89		TRANSISTOR 2SC2785		R47	1-246-457-00	CARBON	220	5%	1/4W	
Q9 010	=>8-729-178-54 =>8-729-178-54	TRANSISTOR 2SC2785 TRANSISTOR 2SC2785		R49 R50	1-246-791-00 1-246-783-00	CARBON CARBON	4.7K 1K		1/8W 1/8W	
011	=>8-729-178-54	TRANSISTOR 2SC2785				CARDON	II.		1/04	
Q12	=>8-729-178-54	TRANSISTOR 2SC2785	}	R51	1-246-785-00	CARBON	1.5K	ra	1/8W	
013	=>8-729-178-54	TRANSISTOR 2SC2785		R53 R54	1-246-465-00 1-246-457-00	CARBON	470 220	5% 5%	1/4W 1/4W	
014	=>8-729-178-54	TRANSISTOR 2SC2785		R55	1-246-457-00	CARBON	220	5%	1/4W	
	=>8-729-178-54 =>8-729-178-54	TRANSISTOR 2SC2785 TRANSISTOR 2SC2785		R56	1-246-457-00	CARBON	220	5%	1/4W	
	=>8-729-178-54	TRANSISTOR 2SC2785		R57	1-246-796-00	CARBON	12K		1/8W	
·			(	R58	1-246-789-00	CARBON	3.3K		1/8W	
	=>8-729-178-54 =>8-729-178-54	TRANSISTOR 2SC2785 TRANSISTOR 2SC2785		R59 R60	1-246-787-00 1-214-148-00	CARBON	2.2K	1 0/	1/8W	
Q20	=>8-729-178-54	TRANSISTOR 2SC2785		R61		METAL CARBON	4.7K 10K	1% 5%	1/4W 1/4W	
Q21	=>8-729-178-54	TRANSISTOR 2SC2785	]							
			1	R62	1-246-804-00	CARBON	56K		1/8W	



No.	Part No.	Description				Remark	No.	Part No.	Description			Remark
R63	1-246-485-00	CARBON	3.3K	5%	1/4W			VAR	MABLE RESIST	<u>OR</u>		
R64	1-246-789-00	CARBON	3.3K		1/8W							
R65	1-246-789-00	CARBON	3.3K		1/8W		RV1	1-226-135-00			٠.	
R66	1-246-775-00	CARBON	220		1/8W		RV2	1-226-135-00				
R67	1-246-775-00	CARBON	220		1/8W		RV3	1-226-135-00	RES, ADJ, CA		•	
							RV4	1-226-850-00	RES, ADJ, CA			
R68	1-246-775-00	CARBON	220		1/8W		RV5	1-226-850-00	RES, ADJ, CA	ARBON 4.7K		
R69	1-246-799-00	CARBON	22K		1/8W							
R70	1-246-807-00	CARBON	100K		1/8W			SWI	TCH			
R71	1-246-799-00	CARBON	22K		1/8W							
R72	1-246-799-00	CARBON	22K		1/8W		SW1	1-552-430-21	SWITCH, SLI	Œ		
R73	1-246-789-00		3.3K		1/8W			CRY	STAL			
R74	1 <b>-</b> 246-789-00	CARBON	3.3K		1/8W							
R75	1-246-795-00	CARBON	10K		1/8W		X1 ·	1-527-828-00	OSCILLATOR,	CRYSTAL		
R76	1-246-793-00	CARBON	6.8K		1/8W							
R77	1-246-799-00	CARBON	22K		1/8W		******	******	******	*****	*****	*****
	`											
R78	1-246-795-00		10K		1/8W			:1-607-261-00				
R79	1-246-861-00	CARBON	30K		1/8W				*****			
R80	1-246-800-00	CARBON	27K		1/8W				10			
R81	1-246-805-00	CARBON	68K		1/8W				IC			
R82	1-246-789-00	CARBON	3.3K		1/8W							
							IC802	8-759-171-05				
R83	1-246-795-00	CARBON	10K		1/8W		IC803	8-759-171-05	IC μPC/805H			
R84	1-246-807-00	CARBON	100K		1/8W							
R85	1-246-801-00	CARBON	33K		1/8W		*****	******	******	*****	*****	*****
R86	1-246-793-00	CARBON	6.8K		1/8W							
R87	1-246-789-00	CARBON	3.3K		1/8W			:A-1330-368-A				
									******	*****		
R88	1-246-795-00	CARBON	10K		1/8W							
							•	:1-607-259-13	C BOARD			
R90	<b>1-246-799-</b> 00	CARBON	22K		1/8W			1-509-545-00	SOCKET, CRT	MOLD		
R91	1-246-795-00	CARBON	10K		1/8W							
R92	1-246-802-00	CARBON	39K		1/8W		J	CON	INECTOR			
					4.10.1				** **			
R93	1-246-797-00		15K		1/8W		C1	:1-508-784-00	IP PLUG			
R97	1-246-789-00	CARBON	3.3K		1/8W							
R100	1-246-787-00	CARBON	2.2K		1/8W			CAP	ACITOR			
R101	1-246-789-00		3.3K		1/8W		.700		0554444	0.004745	004	a cuit
R102	1-246-787-00	CARBON	2.2K		1/8W		C701	1-102-223-00		0.0047MF	20%	1.6KV
				F-1	4 4 4 4 4 4		C702	1-102-050-00	CERAMIC	0.01MF	99%	500V
R103	1-246-493-00		6.8K	5%	1/4W		C703	1-102-002-00	CERAMIC	680PF	10%	500V
R104	1-246-493-00	CARBON	6.8K	5%	1/4W		C704	1-121-999-00	ELECT	10MF		160V
R105	1-246-789-00	CARBON	3.3K	F-1	1/8W			2.0	D.F.			
R107	1-246-465-00	CARBON	470	5%	1/4W			DIO	IDF			
R109	1-246-807-00	CARBON	100K		1/8W		0.701	. 0 710 000 75	DIODE DUAL			
0111	1 046 700 60	CA DDON'	2 24		1 /01			>8-719-300-76				
R111	1-246-789-00		3.3K		1/8W			>8-719-300-76				
R115	1-246-783-00	CARBON	1K		1/8W		0/03 =	>8-719-300-76	DIODE RHIA			
R116	1-246-795-00	CARBON	10K		1/8W		1					
R117	1-246-783-00	CARBON	1K		1/8W			<u>COI</u>	<u>. L</u>			
R118	1-246-783-00	CARBON	1K		1/8W		1 . 701	1 407 700 00	MY ODO Y NOVO	500 000UU		
0110	1 046 700 60	CARRON	11/		1 /01		L701	1-407-709-00				
R119	1-246-783-00	CARBON	1K		1/8W		L702	1-407-697-00	MICRO INDUCTOR	R 22UH		
R120	1-246-775-00	CARBON	220		1/8W							
R121	1-246-775-00	CARBON	220		1/8W		1					
R122	1-246-762-00	CARBON	18	E of	1/8W		1					
R123	1-246-457-00	CARBON	220	5%	1/4W		1					
R124	1 246 457 00	CARRON	220	5%	1/4W		1					
	1-246-457-00		220	5% 5%			1					
R125	1-246-457-00	CARDUN	220	3/6	1/4W		1					



No-	Part No.	Description				Remark	No.	Part No.	Description			Remark
	NEO	N LAMP					R402	1-246-473-00		14 54	11.4411	
							R403			1K 5% 6.2K 5%	1/4W 1/4W	
NL701	1-519-108-XX	LAMP, NEON AS	SSY				R404	1-246-473-00	CARBON	1K 5%	1/4W	
	TRA	NSISTOR						VAF	RIABLE RESISTO	R		
Q701	8-729-322-78	TRANSISTOR 2S	C2278				   RV40	0 1-228-351-00	RES. VAR. SL	IDE 20K		
0702		TRANSISTOR 2S						1 1-226-870-00				
Q703	0-129-322-10	TRANSISTOR 2S	162210				****	******	******	*****	*****	******
	RES	ISTOR						A.A 1204 022 A	I DOLD COM	יטו כדר		
R701	1-246-457-00	CARBON	220	5%	1/4W			<b>♦:</b> A-1394-022-A	********			
R702	1-246-457-00		220	5%	1/4W							
R703 R704	1-246-457-00 1-246-497-00		220 10K	5% 5%	1/4W 1/4W			CAP	PACITOR			
R705	1-246-497-00		10K	5%	1/4W		C001	1-130-566-00		2.2MF	10%	250V
R706	1-246-497-00	CARBON	10K	5%	1/4W		C002	1-123-356-00		10MF	20%	16V
R707	1-213-155-00	METAL	10K	5%	1/4W	F	C003			0.1MF	10%	100V
R708	1-213-155-00	METAL	10K	5%	1W	F	C004	1-123-321-00		220MF 0.015MF	20% 10%	16V 400V
R709	1-213-155-00	METAL	10K	5%	1W	F	0003	1-100-425-00	PILAK	0.013/4	10%	400¥
R710	1-202-581-00	COMPOSITION	2.2K	10%	1/2W		C006	1-108-389-00	MYLAR	0.1MF	10%	100V
							C007	1-129-714-00		0.01MF	10%	400V
R711	1-202-581-00	COMPOSITION	2.2K	10%	1/2W		C008			0.01MF	10%	400V
R712	1-202-581-00	COMPOSITION	2.2K	10%	1/2W		C009	1-108-423-00		0.015MF	10%	400V
R713	1-202-723-00	COMPOSITION	2.2M		1/2W		C010	1-108-393-00	MYLAR	0.22MF	10%	100V
R714 R715	1-202-723-00 1-202-621-00	COMPOSITION COMPOSITION	2.2M 100K	10% 10%	1/2W 1/2W							
K/13	1-202-021-00	COMPOSTITON	TOOK	10%	1/2W		C011	1-108-389-00		0.1MF	10%	100V
R716	1-202-645-00	COMPOSITION	1M	10%	1/2W		C012	1-108-423-00 1-161-317-00		0.015MF 330PF	10%	400V
R717	1-244-929-00		220K		1/2W		C014			0.0047MF	10% 10%	50V 50V
					-,		C015	1-161-381-00		0.0047MF	10%	50V 50V
	VAD	TABLE DECICEOR										
	VAR	IABLE RESISTOR	-				C018	1-108-385-00		0.047MF	10%	250V
RV701	1-226-659-21	RES. ADJ. MET.	AL GLA	7F 7.5	M		C019	1-161-383-00 1-108-393-00	CERAMIC	0.0047MF 0.22MF	10% 10%	50V 100V
		neo, neo, ne					C021	1-108-389-00	MYLAR	0.1MF	10%	100V 100V
	SPA	RK GAP					C022	1-161-265-00		33PF	5%	507
							1		02.1.11.10		- 70	
	1-519-063-XX						C023		ELECT	4.7MF	20%	25V
	1-519-063-XX						C024		ELECT	4.7MF	20%	25V
	1-519-063-XX						C025		MYLAR	0.01MF	10%	400V
56/04	1-519-063-XX	DISCHARGING G	AP				C026		ELECT	4.7MF	20%	25V
*****	******	*****	*****	*****	*****	******	C027	1-123-308-00	ELECT	220MF	20%	10V
							C028	1-123-310-00	FLECT	470MF	20%	107
•	:1-607-260-00						C029		MYLAR	0.1MF	10%	100V
		*****					C032	1-129-714-00	MYLAR	0.01MF	10%	400V
							C033	1-123-356-00	ELECT	10MF	20%	16V
	<u>D10</u>	DE					C034	1-130-566-00	MYLAR	2.2MF	10%	250V
D400	8-719-822-06	DIODE TLG206					C035	1-123-356-00	FLECT	10MF	20%	16V
							C036	1-130-247-00		0.033MF	10%	250V
	RES	ISTOR					0000	2 200 2 17 100		0.000111	20,0	230.
D.400	1 246 475 00	CARRON	1 01/	F~	1 / 41 :			DIO	DE			
R400 R401	1-246-475-00 1-246-481-00		1.2K 2.2K		1/4W 1/4W		0003	=>8-719-815-55	DIODE 101555			
1/4/1	1-240-401-00	O/INDON	LOLK	J 10	1/ TN	i		=>8-719-815-55				

No. Part No.	<u>Description</u>	Remark	No.	Part No.	Description				Remark
D003 =>8-719-815-55 D004 =>8-719-815-55 D005 =>8-719-815-55 D006 =>8-719-815-55 D007 =>8-719-815-55	DIODE 1S1555 DIODE 1S1555 DIODE 1S1555		R016 R017 R018 R019 R020	1-215-180-00 1-215-169-00 1-215-169-00 1-215-169-00 1-215-170-00	METAL METAL METAL	15K 5.1K 5.1K 5.1K 5.6K	5% 5%	1/4W 1/4W 1/4W 1/4W 1/4W	
D008 =>8-719-815-55 D009 =>8-719-815-55 D010 =>8-719-200-02 D011 =>8-719-200-02 D012 =>8-719-200-02	DIODE 1S1555 DIODE 10E2 DIODE 10E2		R021 R022 R023 R024 R025	1-215-169-00 1-215-170-00 1-215-204-00 1-215-176-00 1-215-176-00	METAL METAL METAL	5.1K 5.6K 150K 10K 10K		1/4W 1/4W 1/4W 1/4W 1/4W	
D013 =>8-719-200-02 D014 =>8-719-931-15			R026 R027 R028	1-215-149-81	METAL METAL METAL	10K 750 1K	5% 5% 5%	1/4W 1/4W 1/4W	
īc			R029 R030	1-215-204-00 1-215-198-00	METAL	150K 82K		1/4W 1/4W	
IC001 8-759-132-40 IC002 8-759-132-40			R031 R036	1-215-204-00 1-215-182-00	METAL	150K 18K	5% 5%	1/4W 1/4W	
<u>co</u>	NNECTOR		R037 R038	1-215-200-00 1-215-184-00	METAL	100K 22K		1/4W 1/4W	
	PLUG, CONNECTOR (2.5MM) 5P PLUG, CONNECTOR (2.5MM) 6P		R039	1-215-170-00		5.6K		1/4W	
L3 •:1-560-123-00	PLUG, CONNECTOR (2.5MM) 3P PLUG, CONNECTOR (2.5MM PITCH)		R040 R041 R042 R043	1-202-661-00 1-202-649-15 1-215-176-00 1-202-649-15	COMPOSITION	4.7M 1.5M 10K 1.5M	5% 5% 5% 5%	1/2W 1/2W 1/4W 1/2W	
TR	NASISTOR		R044	1-215-220-00	METAL	680K	5%	1/4W	
Q001 =>8-729-663-47 Q002 =>8-729-663-47 Q003 =>8-729-612-77 Q004 =>8-729-612-77 Q005 =>8-729-663-47	TRANSISTOR 2SC1364 TRANSISTOR 2SC1364 TRANSISTOR 2SA1027R TRANSISTOR 2SA1027R TRANSISTOR 2SC1364		R045 R046 R047 R048 R049	1-215-192-00 1-215-198-00 1-215-204-00 1-215-176-00 1-215-200-00	METAL METAL METAL	47K 82K 150K 10K 100K	5%	1/4W 1/4W 1/4W 1/4W 1/4W	
Q006 =>8-729-663-47 Q007 =>8-729-663-47 Q008 =>8-729-663-47 Q009 =>8-729-663-47 Q010 =>8-729-612-77	TRANSISTOR 2SC1364 TRANSISTOR 2SC1364 TRANSISTOR 2SC1364 TRANSISTOR 2SC1364 TRANSISTOR 2SA1027R		R050 R051 R052 R053 R054	1-215-160-00 1-215-152-00 1-215-172-00 1-215-152-00 1-215-172-00	METAL	2.2K 1K 6.8K 1K 6.8K	5% 5% 5%	1/4W 1/4W 1/4W 1/4W 1/4W	
Q011 =>8-729-663-47 Q012 =>8-760-413-10 Q013 =>8-729-663-47	TRANSISTOR 2SC1364 TRANSISTOR 2SC1475 TRANSISTOR 2SC1364	į	R057 R058 R059 R060	1-215-169-00 1-215-128-00 1-215-158-00 1-215-140-00	METAL METAL METAL METAL	5.1K 100 1.8K 330	5% 5% 5%	1/4W 1/4W 1/4W 1/4W	
<u>RE</u>	SISTOR		R061	1-215-152-00	METAL	1K	5%	1/4W	
R001 1-244-847-00 R002 1-215-168-00 R003 1-215-168-00 R004 1-215-152-00 R005 1-215-178-00	METAL 4.7K 5% 1/4W METAL 4.7K 5% 1/4W METAL 1K 5% 1/4W		R062 R063 R064 R065 R066	1-215-172-00 1-244-839-00 1-215-096-00 1-215-096-00 1-215-132-00	METAL CARBON METAL METAL METAL	6.8K 39 4.7 4.7 150	5% 5% 5% 5%	1/4W 1/2W 1/4W 1/4W 1/4W	
R007 1-215-186-00 R008 1-215-160-00 R009 1-215-167-00 R010 1-215-180-00 R011 1-215-176-00	METAL 2.2K 5% 1/4W METAL 4.3K 5% 1/4W METAL 15K 5% 1/4W		R067 R068 R069 R070 R071	1-244-841-00 1-215-198-00 1-215-198-00 1-215-178-00 1-215-186-00	CARBON METAL METAL METAL METAL	47 82 K 82 K 12 K 27 K	5% 5% 5% 5% 5%	1/2W 1/4W 1/4W 1/4W 1/4W	
R012 1-215-164-00 R013 1-215-188-00 R014 1-215-172-00	METAL 3.3K 5% 1/4W METAL 33K 5% 1/4W METAL 6.8K 5% 1/4W		R072 R073 R074	1-215-170-00 1-215-170-00 1-215-170-00	METAL METAL METAL	5.6K 5.6K 5.6K	5% 5% 5%	1/4W 1/4W 1/4W	

No.	Part No.	Description				Remark
R075 R076	1-215-170-00 1-215-174-00		5.6K 8.2K	- ,-	1/4W 1/4W	
	25.					

RELAY

RLI A.1-515-469-00 RELAY, REED RL2 A.1-515-470-00 RELAY, REED RL3 A.1-515-468-00 RELAY, REED

TRANSFORMER

TOOL A.1-437-119-00 TRANSFORMER, LINE ISOLATING

MG BOARD **1-609-254-00** 

DIODE

D43 => 8-719-911-19 DIODE 1SS119 D44 => 8-719-911-19 DIODE 1SS119

TRANSISTOR

TRANSISTOR 2SC2785 Q5 => 8-729-178-54

RESISTOR

1-246-493-00 1-246-789-00 1-246-795-00 CARBON 6.8K 1/4 W R19 3.3K 1/8W CARBON R24 CARBON 10K 1/8W R25 1-246-773-00 CARBON 150 1/8 W

MISCELLANEOUS

A.1-226-881-00 RESISTOR ASSY, HIGH-VOLTAGE 1-425-032-00 MAGNET, DISK; 10mm/ 1-425-094-00 MAGNET, POTATABLE, DISK; 15mm/ A.1-426-043-00 COIL, DEGAUSSING 1-452-126-11

1-509-547-00 3P INLET

A1-534-698-XX POWER CORD

6:1-555-181-22 CONNECTOR ASSY, MINIATURE 4P

6:1-555-347-00 CONNECTOR, MINIATURE 1P

6:1-555-441-00 CONNECTOR ASSY (LARGE) 3P **1.** 1-555-730-00 CONNECTOR ASSY (2.5MM) 2P **1.** 1-555-338-00 CONNECTOR ASSY (2.5MM) 6P **1.** 1-556-057-81 CONNECTOR ASSY (LARGE) 3P **1.** 1-556-303-00 CABLE (WITH DIN PLUG) 6P **1.** 1-550-303-00 CONNECTOR ASSY (2.5MM) 6P

1-556-396-11 CONNECTOR ASSY (2.5MM) 5P

NOTE:

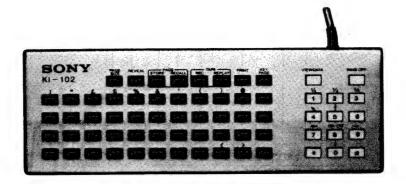
The components identified by shading and mark A are critical for safety. Replace only with part number specified.

Part No. Description <u>Remark</u> 1-561-579-00 JACK, DIN 7P 1-561-580-00 JACK, DIN 6P 1-561-665-00 SOCKET, DIN 8P L901 <u>A.</u>1-451-145-00 DEFLECTION YOKE \$801 <u>A.</u>1-552-503-00 SWITCH, PUSH \$1-502-509-31 SPEAKER T601 A.1-439-261-00 TRANSFORMER ASSY, FLYBACK V901 A.8-733-851-05 PICTURE, TUBE (220JB22)

### ACCESSORIES AND PACKING MATERIALS

A-1009-092-A PAD COMPLETE ASSY (SA-240), KEY BAG, PROTECTION HOOK 4-023-740-00 4-360-225-00 4-360-250-00 CUSHION (UPPER) (ASSY) 4-360-251-00 CUSHION (LOWER) (ASSY) 4-360-281-00 LABEL, CONTROL 4-493-675-51 MANUAL, INSTRUCTION

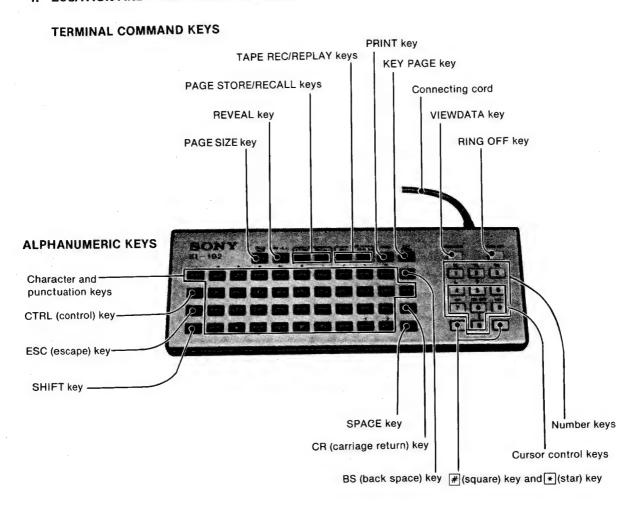
### **SERVICE MANUAL**



October, 1982

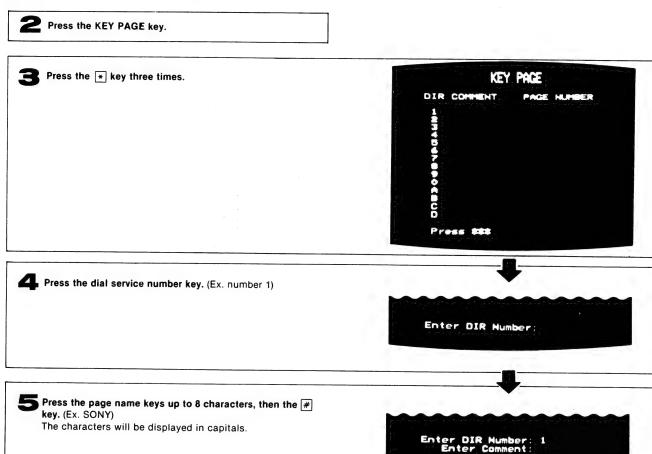


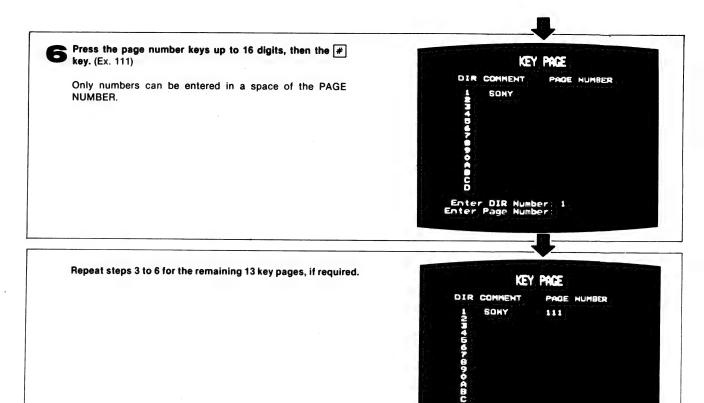
### 1. LOCATION AND FUNCTION OF CONTROLS



### 2. KEY PAGE OPERATION

### TO STORE THE KEY PAGE NUMBER Press the POWER switch.





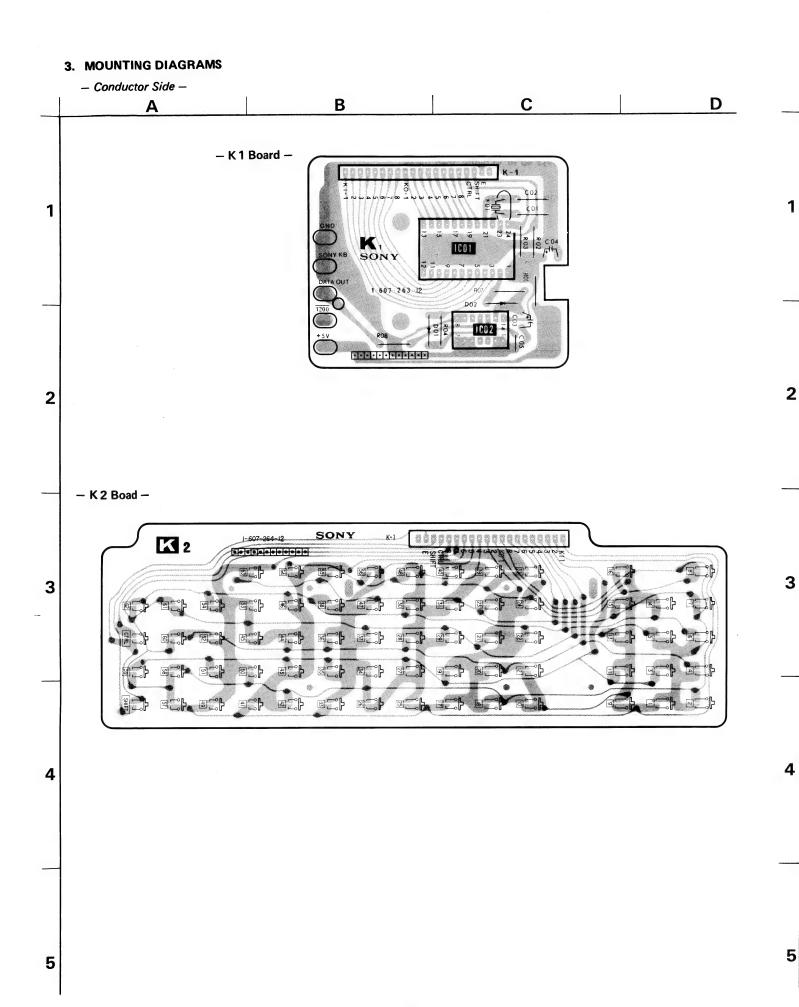
Press Mis

### TO ACCESS THE KEY PAGE

- 1 Press the KEY PAGE key in the on-line mode.
- 2 Press the dial service number key. The indexed page is displayed.

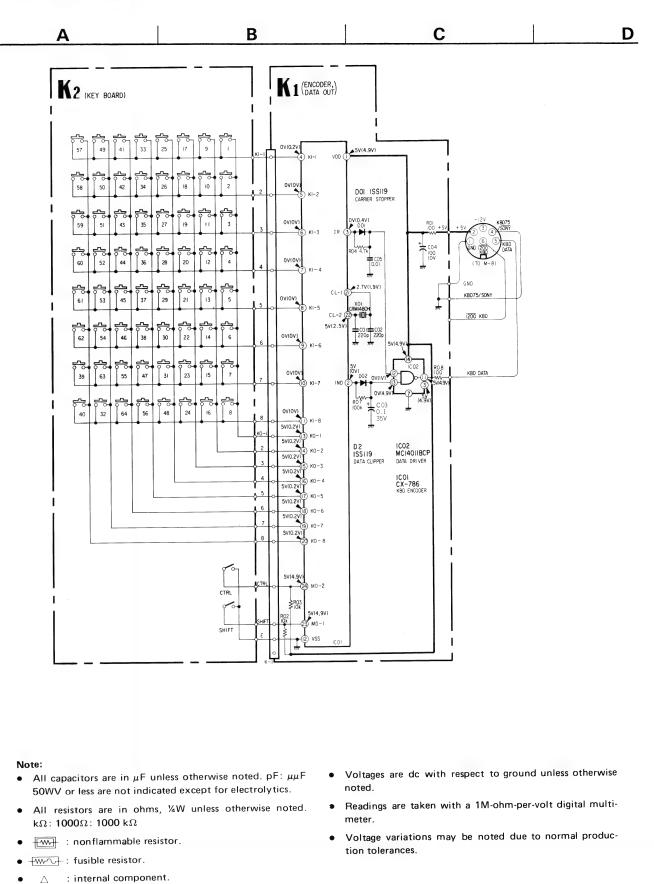


For recalling other pages, first press the KEY PAGE key, then press the desired dial service number key.



### 4. SCHEMATIC DIAGRAM

• panel designation.

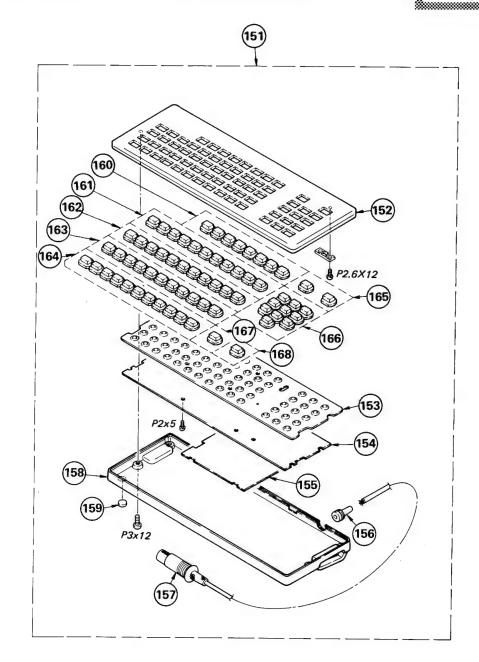


### 5. EXPLODED VIEW

- NOTE:
   Items with no part number and no description are not stocked because they are seldom required for routine service.
   The construction parts of an assembled next are indicated with a collation
- part are indicated with a collation number in the remark column.
- Items marked " " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

Remark



No. Part No	<ul> <li>Description</li> </ul>	Remark	No.	Part No.	Description
152 X-4360- 153 4-360-2 154 <b>6</b> :1-607-2 155 <b>6</b> :1-607-2 156 3-659-7	63-00 K1 BOARD	TIVE	161 162 163 164 165	X-4360-215-0 X-4360-216-0 X-4360-217-0 X-4360-218-0 X-4360-219-0 X-4360-220-0 X-4360-221-0	KEY TOP (B) ASSY KEY TOP (C) ASSY KEY TOP (D) ASSY KEY TOP (E) ASSY KEY TOP (F) ASSY
158 4-360-2 159 4-344-2			167	X-4360-222-0	

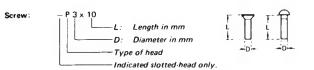
### 6. ELECTRICAL PARTS LIST

No.	Part No.	Description				Remark
	<b>∆</b> :1-607-263-00	K1 BOARD				}
	CAF	ACITOR				
C01 C02 C03 C04 C05	1-161-315-00 1-161-315-00 1-131-341-00 1-123-307-00 1-108-239-00	CERAMIC CERAMIC TANTALUM ELECT MYLAR	220PF 220PF 0.1MF 100MF 0.01MF	:	10% 10% 10% 20% 10%	50V 50V 35V 10V 50V
	DIO	DE				
D01 D02	8-719-911-19 8-719-911-19	DIODE 1SS119 DIODE 1SS119				
	<u>1C</u>					}
I C 0 1 I C 0 2	8-759-907-86 =>8-759-240-11	IC CX-786 IC TC4011BP				
	CON	NECTOR				
K1 (	<b>5</b> :1-508-858-11	CONNECTOR, (F	PIN)			
	RES	ISTOR				
R01 R02 R03 R04 R07	1-246-449-00 1-246-497-00 1-246-497-00 1-246-489-00 1-246-521-00	CARBON CARBON CARBON CARBON CARBON	100 10K 10K 4.7K 100K	5% 5% 5% 5%	1/4W 1/4W 1/4W 1/4W 1/4W	
R08	1-246-449-00	CARBON	100	5%	1/4W	
	CRY	STAL				)
X01	1-527-476-00	OSCILLATOR, O	ERAMIC			
						1

- Items marked " " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- =>: Due to standardization, interchangeable replacements may be substituted for parts specified in the diagrams.
- CAPACITORS MF : μF, PF : μμF
  - RESISTORS
- All resistors are in ohms
   F: nonflammable

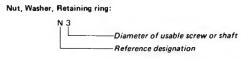
### HARDWARE NOMENCLATURE

**- 53 -**



Unless otherwise indicated, it means cross-recessed head (Phillips type).

Reference Designation	Shape	Description	Remarks
		SCREWS	
Р	₽	pan-head screw	binding-head (B) screw for replacement
PWH	€	pan-head screw with washer face	binding-head (B) screw and flat washer for replacemen
PS PSP	85	pan-head screw with spring washer	binding-head (B) screw and spring washer for replace- ment
PSW PSPW	<b>68</b>	pan-head screw with spring and flat washers	binding-head (B) screw and spring and flat washers for replacement
R	<b>₽</b>	round-head screw	binding-head (B) screw for replacement
К	Þ	flat-countersunk-head screw	
RK	€€	oval-countersunk-head screw	
В	þ	binding-head screw	
T	<b>(</b>	truss-head screw	binding-head (B) screw for replacement
F	13	flat-fillister-head screw	
RF	<b>€</b> 3	fillister-head screw	
BV	<b>€</b> ∋	braizer-head screw	



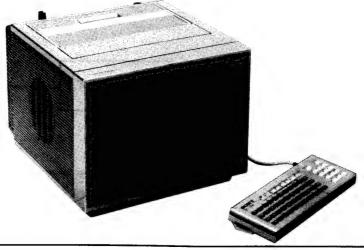
Reference Designation	Shape	Description	Remarks
		SELF-TAPPING SCRE	WS
TA		self-tapping screw	ex: TA, P3 x 10
РТР		pan-head self-tapping screw	binding-head self- tapping (TA, B) screw for replacement
PTPWH		pan-head self-tapping screw with washer face	binding-head self tapping (TA, B) screw and flat washer for replacement
PTTWH		pan-head thread-rolling screw with washer face	binding-head (B) screw and flat washer for replacement
-		SET SCREWS	
SC		set screw	
SC	- <b>⊚</b> €∃-	hexagon-socket set screw	ex: SC 2.6 x 4, hexagon socket
		NUT	
N	-[]	nut	
	•	WASHERS	
W	0	flat washer	
SW	- A	spring washer	
LW	0	internal-tooth lock washer	ex: LW3, internal
LW	٥	external-tooth lock washer	ex: LW3, external
		RETAINING RINGS	
E	0	retaining ring	
G	<b>@</b>	grip-type retaining ring	

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# KTX-9000UB/G

# TROUBLE SHOOTING MANUAL

GERMANY Model UK Model



April, 1983

### REPAIR FLOW CHART FOR M AND L BOARDS

<u>Section</u>	<u>Title</u>	Page
1.	DISPLAY	2
	• Picture is not luminous.	
	• Picture is luminous but not normal.	
2.	TEL LINE	6
	• Does not connect with telephone circuit.	
	• Connects with telephone circuit but DATA is not normal.	
3.	TAPE recording/playback	8
	• No recording and playback when connected with a tape recorder.	
	• Recording and playback possible but DATA is not normal.	
4.	PRINTER	9
	<ul> <li>No recording when connected with printer.</li> </ul>	
	• Recording possible but DATA is not normal.	



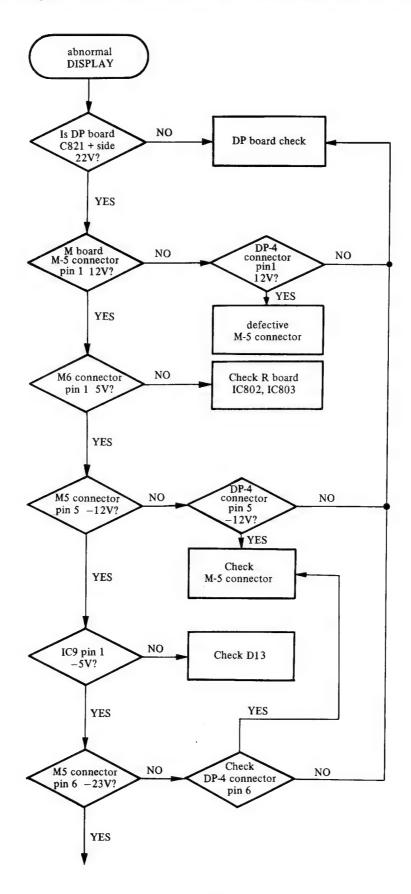


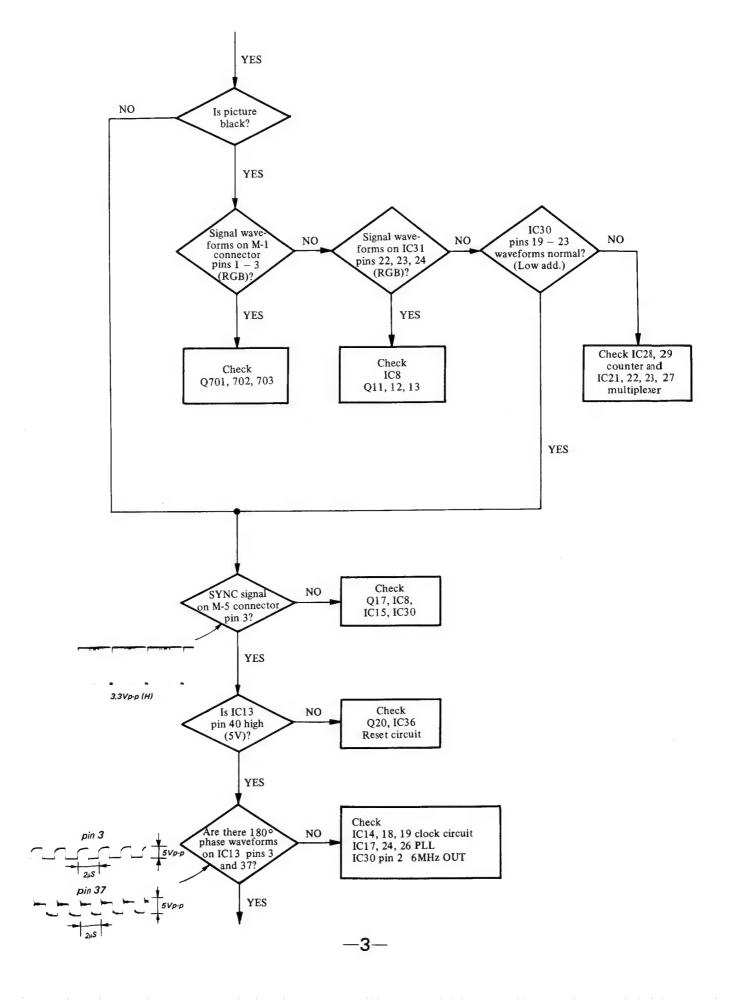


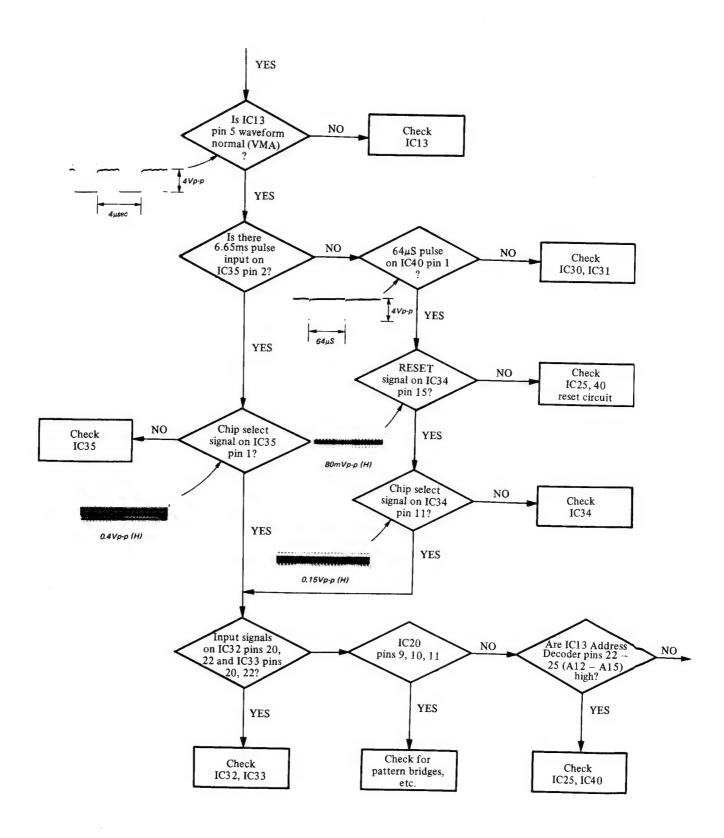
### TROUBLE SHOOTING

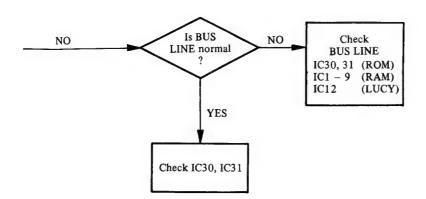
• The waveform and voltage should be the measured value in the "LINE Disconnected" condition.

# 1. DISPLAY

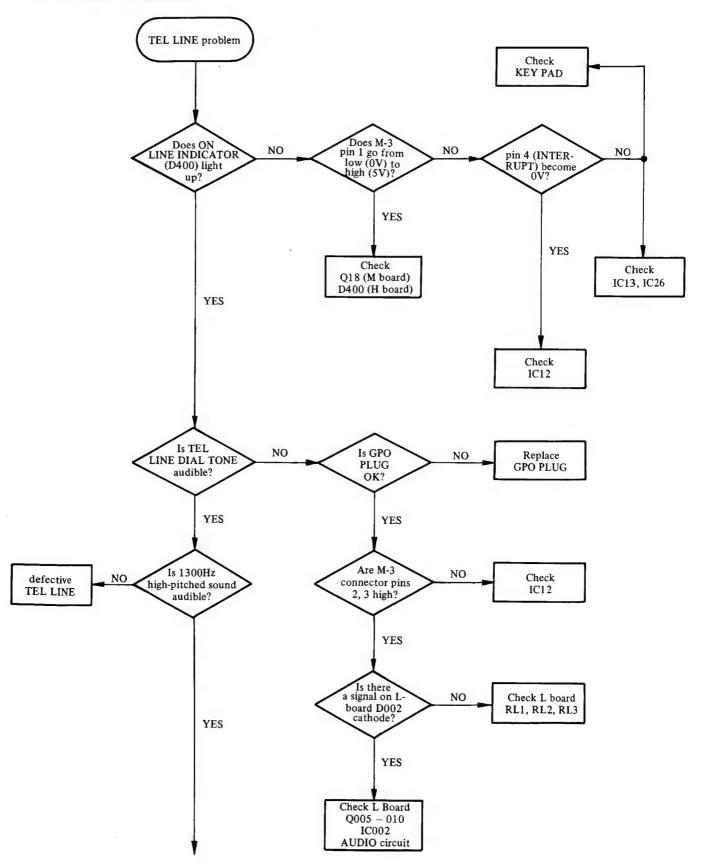


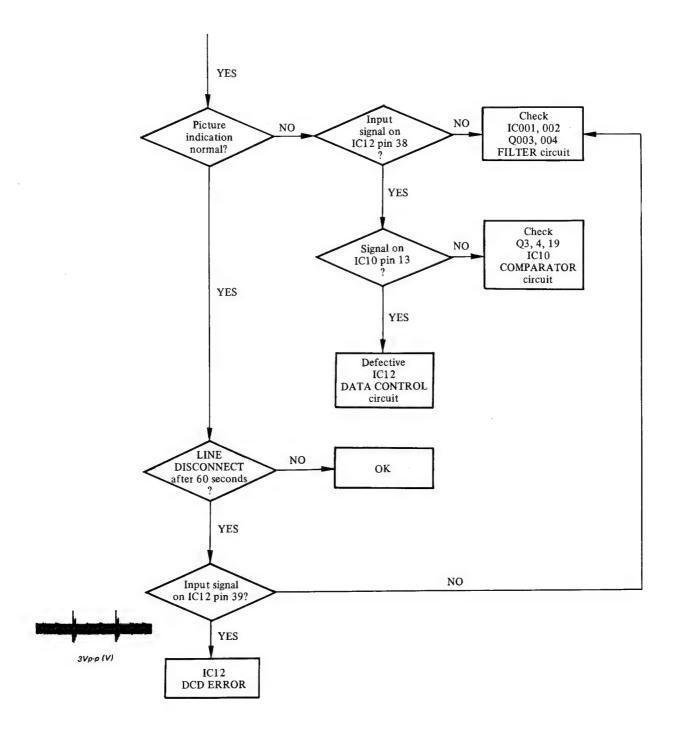




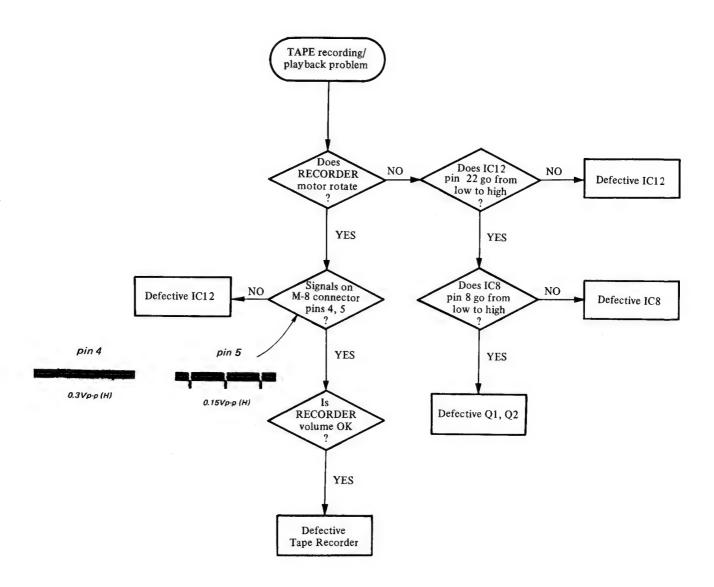


## 2. TEL LINE (UK Model only)

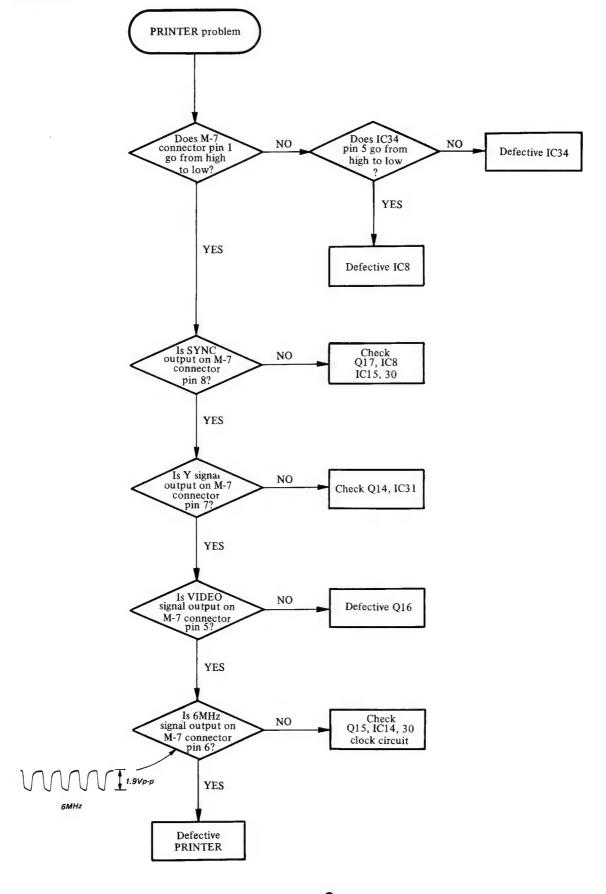


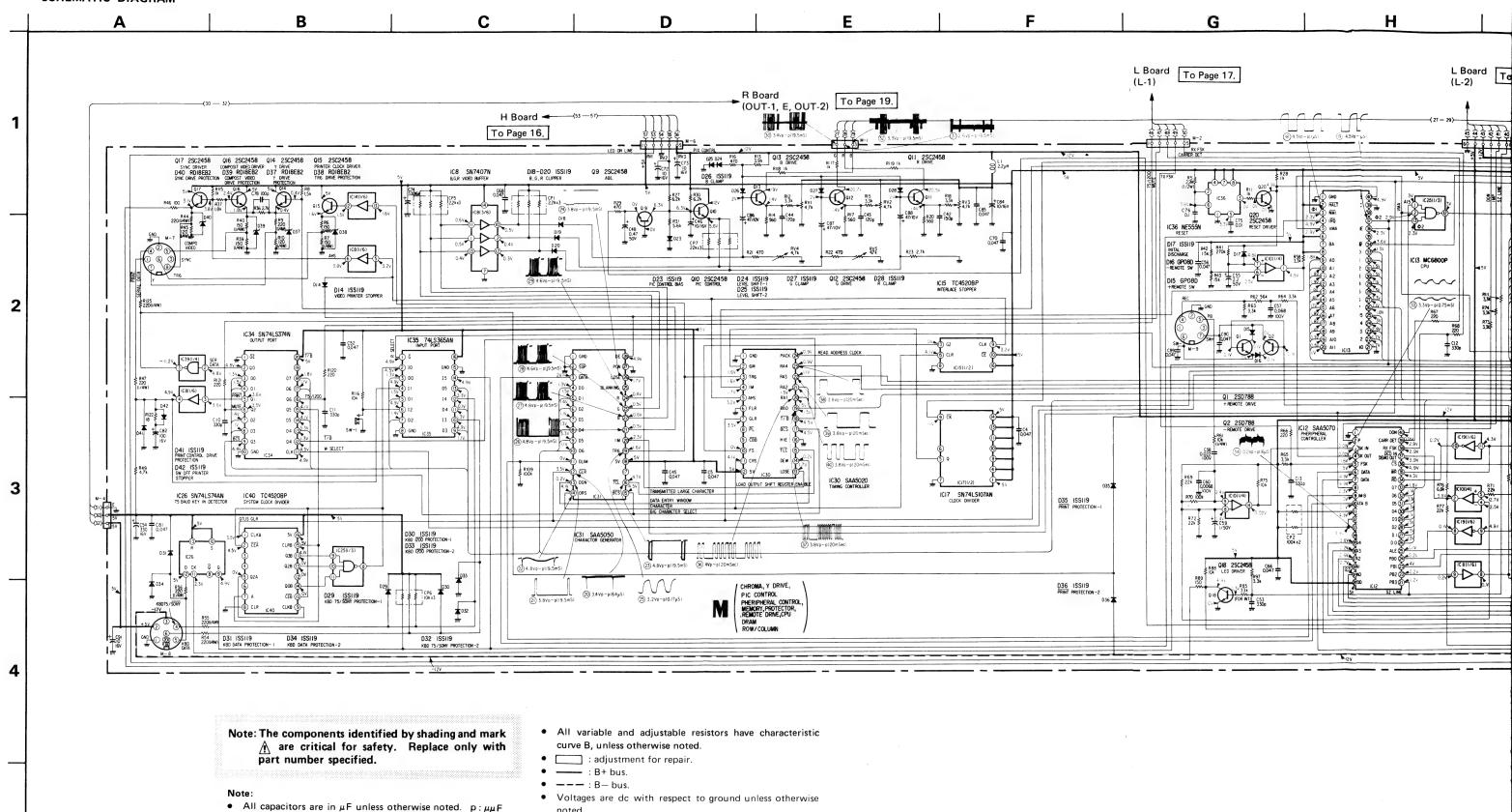


# 3. TAPE RECORDING/PLAYBACK



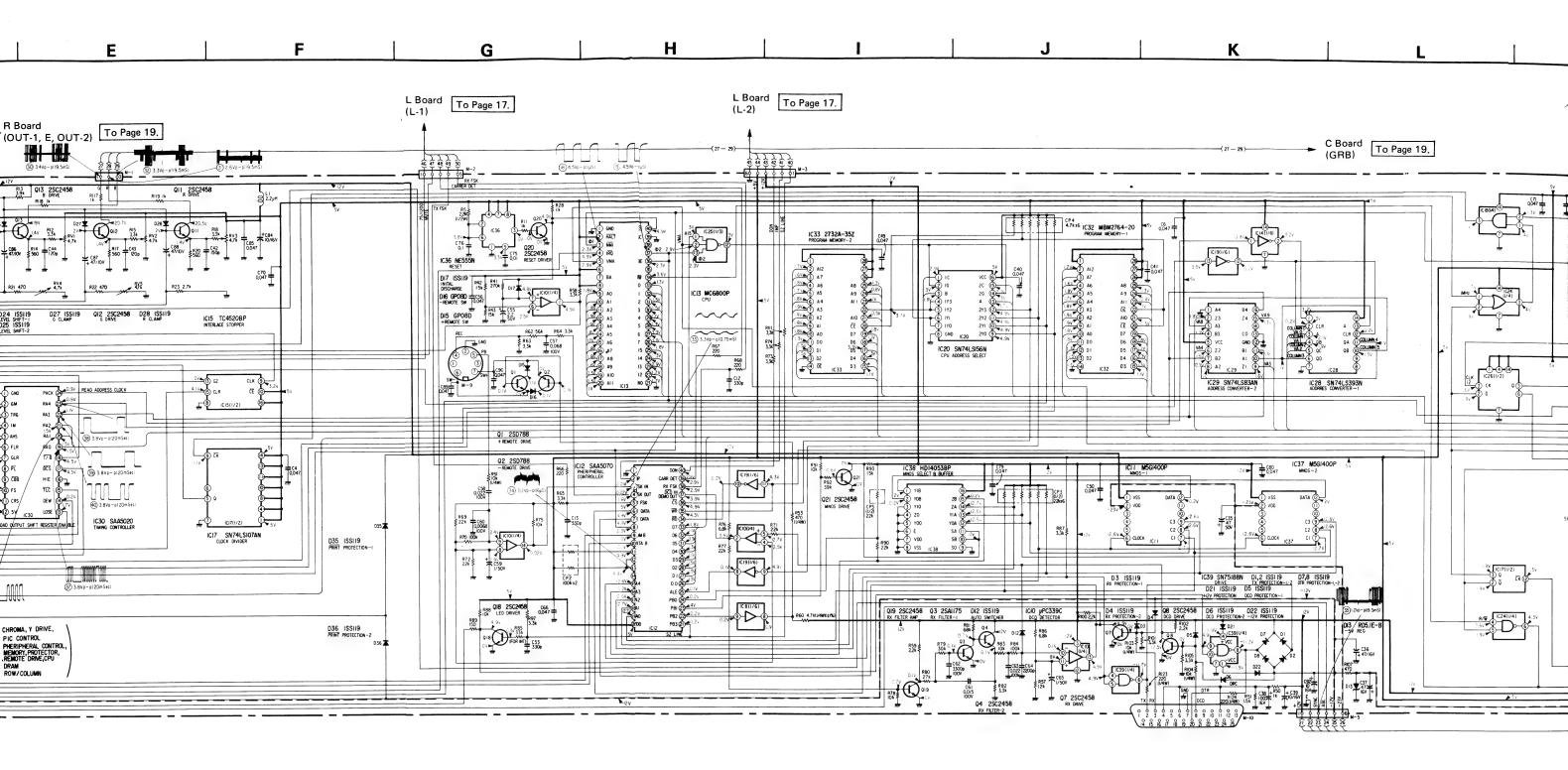
### 4. PRINTER





- 50WV or less are not indicated except for electrolytics.
- All resistors are in ohms, 1/8 W unless otherwise noted.  $k\Omega$ : 1000 $\Omega$ ,  $M\Omega$ : 1000 $k\Omega$
- monflammable resistor.
- △ : internal component.
- panel designation.

- noted.
- Voltage variations may be noted due to normal production tolerances.
- The voltage should be the measured value in the "Line Disconnected" condition.
- Reading are taken with a 1M-ohm-per-volt digital multi-



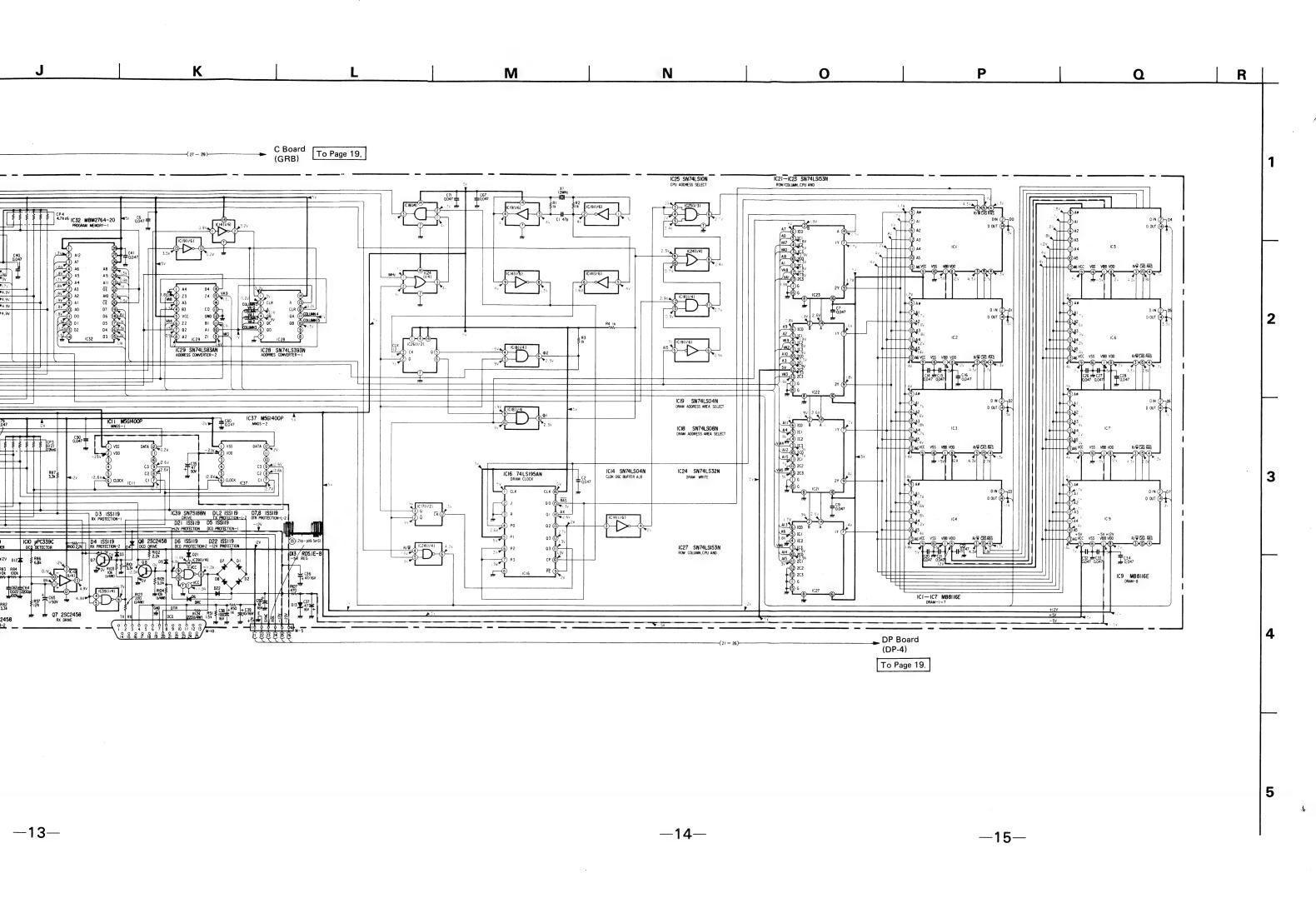
ave characteristic

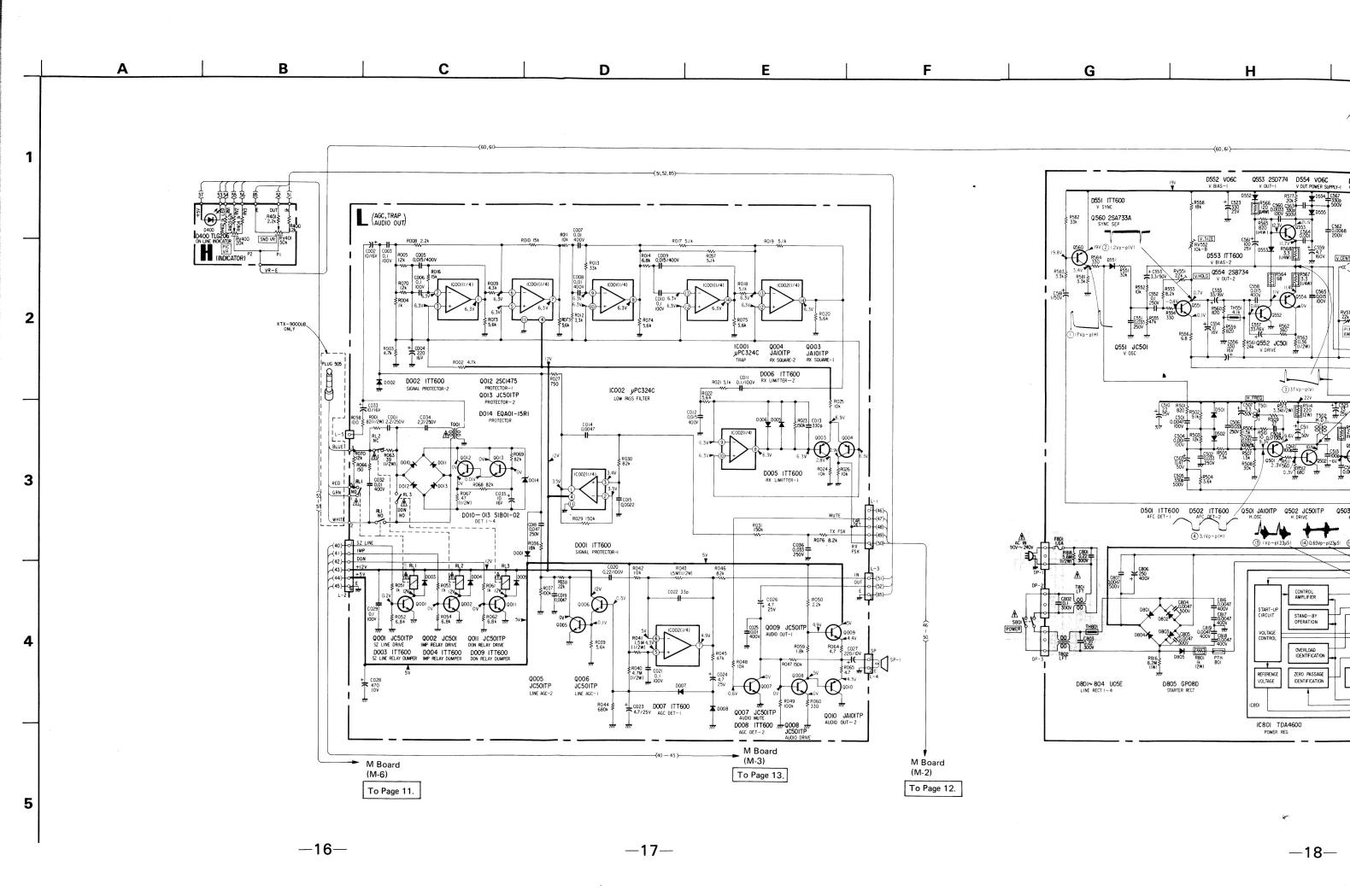
d unless otherwise

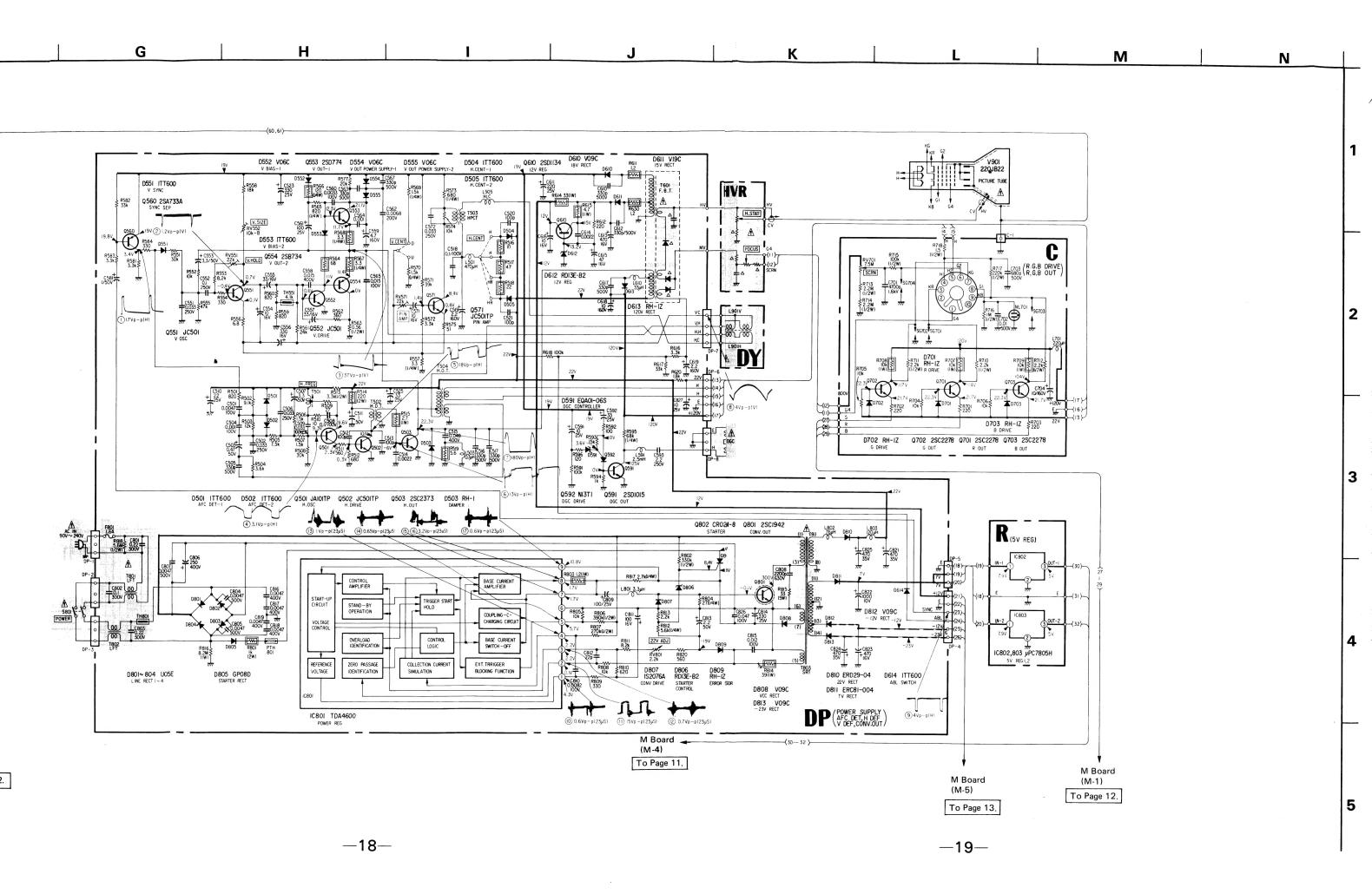
e to normal pro-

alue in the ''Line

volt digital multi-







R.G.B. VIDEO DRIVE, PIC CONTROL, DRAM ROW/COLUMN, PHERIPHERAL CONTROL, MEMORY, PROTECTOR, TAPE, CPV H G D - M Board -IC , Q D ADJ 0000000000 IC36 IC5 IC3 IC4 20 IC3 IC2, ICI IC33 C34 -C32 -C26 -21 23 25 27 **2**9 31 33 35 37 39 C49 R109 1032 ICI3 RV3 CIS R100 1031 C41-2 IC16,IC20 IC27,IC28 8 1023,1030 RV2 12,13,11 14 ICI2 M RV4 RV5 IC39 SONY C72 1010 21 C73 →|(-3 IC8 ICI5 7 IC19 7 IC14,IC40 IC18,IC25 IC17,IC24 IC26 21 22 22 C68 C52 17 IC34 10,9 1,2 1C35 39<sup>16</sup> 23,25,24 14,15,16 41 15 40 37,38 ICII IC37,IC38 R44 29 32,31,34 4 R122 5,6 13,3,4 1,2 7,8 35 R103 000000000000000 14000000000000025 D35 --36,30 D36 -H-ADJ IC , Q D 5

-21-

-22-

